





ANNUAL REPORT

ON

# METEOROLOGICAL OBSERVATIONS

IN THE

STRAITS SETTLEMENTS

FOR THE YEAR

~~1890~~ 1890

BY

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ANNUAL METEOROLOGICAL REPORT, STRAITS SETTLEMENTS,  
FOR THE YEAR 1890.

This is the seventh report in which the Meteorological Observations, made in the Colony, have been shewn systematically.

2. The results are shewn in the attached abstracts, charts and returns, viz. :—

- (a) Annual abstracts of meteorological observations.
- (b) Annual abstracts of rainfall.
- (c) Tabular statement of the mean annual and monthly rainfall, and the mean number of rainy days, at Singapore, from 1869 to 1890.
- (d) Charts exhibiting the mean annual range of atmospheric pressure, of temperature, rainfall and the number of rainy days at Singapore, for the last ten years.
- (e) Monthly meteorological results.
- (f) Monthly rainfall results.

3. The following data deduced from the observations are both interesting and valuable :—

I.—ATMOSPHERIC PRESSURE.

Stations.	Highest.	Date.	Lowest.	Date.	Range for the year.	Mean for the year.
	Ins.		Ins.		Ins.	Ins.
Singapore,...	30.095	30th Aug.	29.710	30th April.	.103	29.887
Penang, ...	30.017	1st Feb.	29.697	25th March.	.094	29.840
Province Wellesley, ...	29.998	18th Jan.	29.690	8th April.	.133	29.833
Malacca, ...	29.980	10th Dec.	29.713	8th Aug.	.011	29.815

II.—TEMPERATURE OF AIR.

Stations.	Highest.	Date.	Lowest.	Date.	Range for the year.	Mean for the year.
	°F.		°F.		°F.	°F.
Singapore,...	91.2	16th March.	67.5	10th July.	13.2	78.9
Penang, ...	93.0	20th April.	69.5	16th Nov.	13.9	80.0
Province Wellesley. ...	93.5	5th March.	70.0	26th Dec.	17.0	82.7
Malacca, ...	90.0	14th Jan.	65.4	22nd Dec.	13.4	81.8

III.—TEMPERATURE OF SOLAR RADIATION.

Stations.	Highest.	Date.	Lowest.	Date.	Mean.
	°F.		°F.		°F.
Singapore, ...	164.0	15th March.	92.5	20th Sept.	145.5
Penang, ...	170.0	2nd April.	105.0	18th Jan.	147.0
Province Wellesley, ...	165.0	16th March.	96.0	18th Dec.	143.0
Malacca, ...	172.0	2nd May.	140.0	16th Feb.	156.0



## IV.—TEMPERATURE OF NOCTURNAL RADIATION ( ON GRASS ).

Stations.	Highest.	Date.	Lowest.	Date.	Mean.
	°F.		°F.		°F.
Singapore, ...	73.9	21st April.	63.3	10th July.	70.3
Penang, ...	76.0	9th May.	65.0	26th Dec.	70.3
Province Wellesley, ...	70.0	10th Dec.	68.0	17th Dec.	69.4
Malacca, ...	74.0	1st July.	65.0	22nd Dec.	71.3

## V.—RELATIVE HUMIDITY.

Stations.	Highest.	Date.	Lowest.	Date.	Mean.
	%		%		%
Singapore, ...	99	10th Dec.	54	28th April.	82
Penang, ...	100	9th March.	43	15th Jan.	81
Province Wellesley, ...	98	1st Dec.	56	17th Dec.	72
Malacca, ...	100	4th Jan.	64	14th Dec.	86

## VI.—WIND. DIRECTION AND VELOCITY.

*Singapore.*

4. During January, February and March, North-East and North-West winds predominated, with frequent calms; during April and May, the directions were principally North-West, West-North-West and West; South-West prevailed during June, July and August; variables ( West, North-North-West, and North-West ) blew during September, October and November; the North-East monsoon set in in December.

5. Table shewing the wind directions in each month:—

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
<b>NORTH.</b>	1	...	...	1	...	...	1	...	...	...	10	5
N N E.	...	2	1	1	1	...	...	...	...	1	2	...
N E.	30	16	12	4	3	...	...	...	...	...	12	31
E N E.	...	1	...	...	...	1	...	1	...	...	...	...
<b>EAST.</b>	1	...	...	3	1	1	...	...	...	...	...	...
E S E.	...	...	1	...	...	...	...	...	...	...	...	1
S E.	...	...	1	4	2	...	...	3	...	...	1	1
S S E.	...	1	4	4	1	...	...	...	...	...	...	...
<b>SOUTH.</b>	...	1	...	1	1	1	5	1	2	1	...	...
S S W.	4	4	4	7	2	5	...	1	9	2	...	1
S. W.	...	...	...	...	...	21	31	27	4	...	...	...
W S W.	1	4	3	5	6	4	...	...	11	4	...	...
<b>WEST.</b>	3	2	...	10	9	7	12	20	20	14	6	5
W N W.	6	6	12	6	6	3	2	3	7	14	5	...
N W.	15	14	15	11	27	23	19	12	12	25	19	24
N N W.	6	8	9	3	1	2	3	...	...	2	7	1
<b>CALM.</b>	26	25	21	27	33	22	20	25	24	30	28	24

6. The mean velocity for the twelve months was 135 miles, and the greatest velocity in 24 hours was 193 miles, which was on the 4th December.

*Penang.*

7. The prevailing directions of the wind from January to June were North-East and North-West. During the latter half of the year North-West winds predominated.

8. The mean velocity was 73 miles, and the greatest velocity in 24 hours was 255 miles, which occurred on the 29th March.



*Province Wellesley.*

9. North-West winds blew during January and February and South-West from March to May, and in the other months South-South-West, North-North-East and North-East.

10. The mean velocity was 92 miles, and the greatest velocity in any one day was 175 miles, which was on the 4th February.

*Malacca.*

11. North-North-East and West-South-West winds were prevalent during the first six months of the year. In the other months, the directions were principally South, South-East and North-West.

12. The mean velocity was 171 miles, and the greatest in 24 hours was 178 miles, which was on the 26th December.

## VII.—RAINFALL.

13. Rainfall was registered at 47 Stations during the year, 11 of which were in Singapore, 4 in Penang, 3 in the Dindings, 6 in Province Wellesley, and 23 in Malacca.

14. Incomplete returns were furnished by 3 Stations in Singapore, 1 in the Dindings, 2 in Province Wellesley, and 2 in Malacca.

*Singapore.*

15. One of the oldest rainfall stations, viz., the P. & O. Co.'s Depôt, New Harbour, furnished no returns for the last six months of the year. Registration at "Holme Chase" was discontinued in November, but was however kept up at 50-1 Grange Road, which is in the same neighbourhood.

16. More satisfactory results would be obtained, were the number of out-stations increased.

17. Except 1870, which registered a fall of 123.24 inches of rain, 1890 has recorded the greatest mean fall, viz., 117.78 inches, since 1869.

18. Compared with last year, the fall is greater by 33.65 inches, and the number of wet days by 32.

19. The heaviest fall and the greatest number of wet days occurred during the last half of the year, viz.:—

	RAIN.	WET DAYS.
January to June, ...	48.52 inches.	93
July to December, ...	69.26 „	113

20. The greatest fall registered was at the Pauper Hospital, Saranggong, where a total of 132.53 inches was reached.

21. The maximum monthly fall, which was 22.28 inches, was registered at Lady Hill in July. Here also occurred the greatest fall in 24 hours, viz., 6.85 inches, which was on the 13th of the same month.

22. The falls during July were unprecedentedly heavy at all the stations.

23. The minimum monthly fall, which was 2.94 inches, was recorded at Holme Chase, for the month of May.

*Penang.*

24. The mean annual fall (139.69 inches) shews an increase of 29.67 inches over that for 1889 (110.02 inches).

25. As in the previous year, Government Hill recorded the heaviest fall, as much as 177.35 inches were registered there.



26. Here as at Singapore, July shewed the greatest monthly fall, viz., 35.96 inches, which was recorded at Balik Pulau. The minimum monthly fall, 0.31 inch, was registered at the same station in December.

27. The greatest fall in 24 hours, viz., 8.95 inches, occurred at Government Hill, on the 28th September.

*The Dindings.*

28. A new station was opened at Lumut, the headquarters of this Settlement, in February.

29. The mean fall was 82.29 inches, as against 93.05 inches in 1889, a decrease of 10.76 inches.

30. The greatest fall (91.69 inches) was registered at Pangkor, where was recorded also the maximum monthly fall, viz., 11.85 inches, in August.

31. The minimum fall was in December, viz., 0.41 inch, recorded at Bruas.

32. The heaviest fall in 24 hours (4.50 inches) was registered at Pangkor, on the 11th August.

*Province Wellesley.*

33. The observations were taken at Bukit Mertajam from August, the old station at Bukit Minyak being closed.

34. The mean fall was 100.40 inches, shewing an increase of 6.39 inches over that of the previous year (94.01 inches).

35. The greatest fall was 117.73 inches, which was at Butterworth.

36. The maximum fall in any one month was 25.00 inches, which was in October, and occurred in Bertam. This station recorded also the minimum fall, viz., 0.42 inch, which was registered in December.

37. The greatest fall in 24 hours was 10 inches, which occurred on the 29th July, at Bertam.

*Malacca.*

38. Two new stations were opened during 1890, viz., at Bukit Bruang and Ayer Keroh, by which the number of stations rose to 23.

39. The mean annual fall was 72.29 inches, against 87.67 inches in 1889, a decrease of 15.38 inches.

40. The greatest fall was 141.97 inches, which was registered at Kwala Linggi. This station also recorded the maximum monthly fall, viz., 20.50 inches, which was in January, and also the greatest fall in 24 hours, which was 8.50 inches, on the 13th December.

41. The lowest monthly fall, viz., 0.20 inch, was in June, at Batu Berendam.

*Summary.*

42. *January.*—Wet in Singapore, Penang, the Dindings, and Province Wellesley. In Malacca dry, excepting the Districts of Merlemau, Machap, Kesang, Pangkalan Balak, Nyalas, and Kwala Linggi.

43. *February.*—Wet in Singapore and Penang. In the Dindings dry, excepting Pangkor. Dry in Province Wellesley, excepting Butterworth and Bukit Minyak. Wet in certain Districts in Malacca, notably Bukit Bruang and Sungei Udang.

44. *March.*—Wet in Singapore and the Dindings. Dry in the other Settlements.

45. *April.*—Wet in Singapore, Penang, the Dindings and Province Wellesley. In Malacca, excepting the Districts of Nyalas, Kwala Linggi, Sungei Rambai and Merlemau, dry.



46. *May*.—Dry in Singapore. Wet in Penang, the Dindings and Province Wellesley. In Malacca very dry, with the exception of the District of Kwala Linggi.

47. *June*.—Wet in Singapore (excepting St. John's Island). Dry in Penang (excepting Government Hill). Very dry in the Dindings. In Province Wellesley, excepting the District of Sungei Bakap, dry; also in Malacca, except in the Districts of Batang Tiga, which were comparatively wet.

48. *July*.—Very wet in Singapore, particularly from the 10th to the 15th, when 12.84 inches of rain were registered at the observatory. Very heavy and frequent falls occurred in Penang, the Dindings and Province Wellesley. Wet in Malacca, but very little rain was registered in the Districts of Jelotong, Sungei Udang, Kesang, Pulau Sebang and Batu Berendam.

49. *August*.—Wet in Singapore, Penang, the Dindings and Province Wellesley. Very wet in Malacca.

50. *September*.—Wet in Singapore, the Dindings and Malacca. In Penang and Province Wellesley very wet.

51. *October*.—Wet throughout the Settlements, particularly in Penang and Province Wellesley. In the Districts of Sungei Udang and Batu Berendam in Malacca dry.

52. *November*.—Very wet in Singapore, particularly in the Saranggong District. Unusually dry in Penang, the Dindings and Province Wellesley.

53. *December*.—Wet in Singapore and in the District of Kwala Linggi in Malacca. Dry in the other Settlements.

54. Before concluding this report, I take the opportunity of thanking Messrs. MCRITCHIE, KNIGHT, RAUCH and DOWN, who have kindly furnished me with monthly rainfall returns from their respective stations.

MAX. F. SIMON,  
Principal Civil Medical Officer,  
Straits Settlements.



Annual Abstract of Meteorological Observations, taken at the Kandang Kerbau Hospital, Observatory, Singapore, in Lat.  $1^{\circ} 17' N.$ , Long.  $103^{\circ} 51' E.$ , for the year 1890. Height of Bar: Cistern, 10 feet above sea level.

Months.	Barometrical Readings corrected and reduced to 32° Fah.				Temperature of Air.							Tempera- ture of Radiation.		Wind.		Temperature of Evaporation.				Computed Vapour Tension.				Relative Humidity.				Rainfall during the month.	Propor- tion of Clouds. 0 to 10.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	In the Sun.	On Grass.	Prevailing Direction.	Mean Velocity.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.
January, ...	Ins. 29.913	Ins. 29.812	Ins. 29.888	Ins. 29.871	°F. 79.9	°F. 83.3	°F. 75.9	°F. 77.9	°F. 84.6	°F. 72.5	°F. 12.1	°F. 138.9	°F. 70.0	N E.	Miles 136	°F. 76.3	°F. 77.0	°F. 74.7	°F. 76.0	Ins. .854	Ins. .859	Ins. .844	Ins. .852	% 84	% 78	% 94	% 85	Ins. 8.77	6	7	6
February, ...	.949	.833	.918	.900	81.8	82.4	76.5	78.2	86.2	72.3	13.9	152.5	69.5	N E.	139	77.2	77.0	75.0	76.4	.869	.852	.850	.857	79	77	92	83	12.47	4	6	6
March, ...	.912	.791	.885	.863	82.9	84.2	77.8	79.6	87.5	73.0	14.5	151.4	69.6	N W. & N E.	136	78.0	78.2	76.4	77.5	.896	.890	.879	.888	79	73	92	81	9.91	4	5	4
April, ...	.917	.808	.883	.869	83.8	84.1	77.8	79.9	87.8	73.9	13.9	150.4	70.9	N W.	135	78.7	77.9	76.5	77.7	.926	.823	.889	.846	80	73	92	82	7.97	4	5	3
May, ...	.896	.797	.869	.854	84.9	85.1	78.6	80.7	88.1	74.3	13.8	148.9	71.3	N W.	135	79.1	79.0	77.4	78.5	.895	.910	.909	.905	78	76	91	82	3.37	5	5	2
June, ...	.898	.814	.874	.862	83.5	85.8	79.7	80.8	87.2	74.3	12.9	144.1	71.6	S W.	136	78.5	79.0	77.2	78.2	.922	.905	.872	.899	80	74	89	81	6.31	5	6	5
July, ...	.920	.850	.911	.894	81.6	83.1	78.2	78.9	85.4	72.6	12.8	140.8	69.8	S W.	137	76.4	76.8	75.9	76.4	.851	.849	.865	.855	79	76	90	82	20.76	7	8	7
August, ...	.938	.848	.903	.896	81.9	82.4	77.6	78.7	84.2	72.9	11.3	139.6	70.5	S W.	136	77.0	76.9	75.5	76.5	.887	.850	.860	.866	82	79	91	83	8.09	6	7	6
September, ...	.932	.817	.896	.882	80.5	84.0	77.7	78.8	85.2	73.1	12.1	143.7	71.1	W. & W S W.	133	76.9	77.5	75.9	76.8	.876	.854	.874	.866	85	73	92	83	8.29	7	7	7
October, ...	.949	.829	.908	.895	81.1	83.5	77.1	78.6	85.8	72.8	13.0	143.2	70.7	W. & N W.	133	76.7	77.6	75.8	76.7	.858	.869	.869	.865	80	76	93	83	9.07	6	7	6
November, ...	.963	.857	.939	.919	81.2	81.8	76.3	77.9	85.6	72.4	13.2	144.5	70.2	N W. & N E.	132	76.7	76.5	75.0	76.1	.859	.889	.856	.868	81	80	91	84	13.43	6	7	7
December, ...	.959	.859	.929	.916	80.2	82.2	75.9	77.4	85.6	71.2	14.4	147.1	68.8	N E. & N W.	134	76.5	76.9	74.5	75.9	.857	.847	.857	.848	83	75	93	84	11.67	5	7	5
Mean, ...	29.929	29.826	29.907	29.887	81.9	83.5	77.4	78.9	86.1	72.9	13.2	145.5	70.3	...	135	77.3	77.6	75.8	76.9	.879	.866	.869	.871	80	76	91	82	Total. 120.11	6	6	5

\* The mean Temperature is computed from results of the Observations at 9 H. 15 H. 21 H. and Minimum Temperature.



Annual Abstract of Meteorological Observations, taken at Penang, in Lat.  $5^{\circ} 24' N.$ , Long.  $100^{\circ} 20' E.$ , for the year 1890.  
Height of Bar: Cistern, 20 feet above sea level.

Months.	Barometrical Readings corrected and reduced to 32° Fah.				Temperature of Air.							Tempera- ture of Radiation.		Wind.		Temperature of Evaporation.				Computed Vapour Tension.				Relative Humidity.				Rainfall during the month.	Propor- tion of Clouds. 0 to 10		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	* Mean.	Maximum.	Minimum.	Range.	In the Sun.	On Grass.	Prevailing Direction.	Mean Velocity.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.
	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.		Miles	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	Ins.			
January, ...	29.924	29.820	29.886	29.876	80.9	85.1	78.7	82.2	87.8	74.1	13.7	164.0	70.1	N E.	89	75.6	76.0	75.3	72.0	.809	.757	.823	.796	76	63	83	74	6.60	4	5	5
February, ...	.902	.808	.823	.844	82.1	86.2	77.6	79.9	88.3	73.8	14.4	149.2	70.8	N W.	101	75.8	77.3	75.6	72.4	.812	.816	.852	.826	73	65	88	75	8.90	5	6	8
March, ...	.879	.762	.847	.829	83.0	88.1	79.5	81.3	90.4	74.7	15.7	152.3	71.6	S.	91	77.0	79.2	77.4	72.0	.851	.848	.911	.871	75	66	89	76	1.57	3	5	4
April, ...	.873	.761	.848	.827	84.6	87.6	80.7	82.1	90.4	75.7	14.7	154.0	72.6	N E.	65	78.8	79.5	77.6	73.5	.910	.902	.915	.881	76	68	89	80	12.11	4	6	6
May, ...	.856	.759	.825	.813	83.7	87.0	80.9	81.7	89.6	75.4	14.2	149.2	73.3	N W.	57	78.5	79.4	77.1	73.9	.906	.903	.915	.885	78	70	89	82	11.92	4	5	6
June, ...	.841	.764	.825	.810	83.1	85.5	78.8	80.6	87.8	74.4	13.4	143.3	71.7	N E.	57	77.9	78.4	76.3	71.6	.892	.880	.874	.850	79	72	89	82	6.67	4	6	5
July, ...	.871	.780	.852	.837	81.3	84.9	77.9	79.4	87.6	73.6	14.0	141.8	70.7	N W.	65	76.5	77.3	75.5	70.9	.854	.838	.849	.815	79	65	89	80	20.42	6	6	5
August, ...	.867	.798	.843	.836	81.6	83.6	78.3	81.1	86.4	73.7	12.7	143.0	71.8	S.	60	76.2	77.3	75.9	71.2	.831	.848	.858	.838	87	75	91	80	7.98	5	6	7
September, ...	.859	.793	.850	.834	81.7	83.1	79.5	81.2	87.3	74.4	12.9	113.5	71.2	N W.	99	76.6	77.4	76.6	71.0	.846	.866	.871	.861	78	76	87	80	26.11	6	7	7
October, ...	.882	.811	.864	.852	80.5	81.0	78.5	78.0	85.0	73.5	11.6	144.0	69.0	N W.	76	77.0	77.0	76.0	71.5	.882	.875	.865	.894	85	83	89	86	27.80	7	7	8
November, ...	.913	.810	.871	.864	81.5	84.0	79.0	81.5	88.0	73.0	15.0	148.0	69.5	N W.	112	76.5	76.5	77.5	70.5	.846	.863	.858	.846	78	85	87	83	5.47	5	6	6
December, ...	.900	.806	.883	.863	81.2	84.8	78.0	79.4	87.8	73.7	14.1	149.7	69.1	N W.	104	75.9	76.5	75.1	70.9	.830	.809	.830	.797	77	68	85	79	3.50	4	5	5
Mean, ...	29.881	29.787	29.851	29.840	82.1	85.0	78.9	80.0	88.0	74.1	13.9	147.0	70.3	...	73	76.8	77.6	76.3	75.6	.856	.850	.868	.837	78	71	88	81	Total 139.05	5	6	6

\* The mean Temperature is computed from results of the Observations at 9 H. 15 H. 21 H. and Minimum Temperature.



Height of Bar : Cistern, 43 feet above sea level.

Months.	Barometrical Readings, corrected and reduced to 32° Fah.				Temperature of Air.							Tempera- ture of Radiation.		Wind.		Temperature of Evaporation.				Computed Vapour Tension.				Relative Humidity.				Rainfall during the month.	Propor- tion of Clouds. 0 to 10.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	In the Sun.	On Grass.	Prevailing Direction.	Mean Velocity.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.
January, ...	Ins. 29.909	Ins. 29.802	Ins. 29.868	Ins. 29.859	°F. 82.7	°F. 87.4	°F. 77.8	°F. 80.0	°F. 89.7	°F. 72.4	°F. 17.3	°F. 133.5	°F. 69.1	N W.	Miles 92	°F. 77.2	°F. 78.8	°F. 74.1	°F. 76.7	Ins. .852	Ins. .863	Ins. .796	Ins. .837	% 73	% 67	% 84	% 75	Ins. 5.68	5	5	3
February, ...	.914	.765	.871	.860	82.5	87.9	78.5	80.2	90.6	71.8	18.8	145.5	67.9	N W.	70	78.0	79.0	75.3	77.3	.854	.863	.829	.847	77	66	85	76	7.23	4	4	3
March, ...	.922	.782	.862	.855	83.4	88.6	81.5	81.6	91.8	73.3	18.5	153.4	68.8	S & S W.	66	77.3	79.0	76.7	77.8	.835	.880	.847	.857	74	66	79	63	3.84	4	5	5
April, ...	.866	.760	.826	.817	84.6	87.8	79.9	81.5	90.7	74.9	15.8	142.0	71.5	S W.	78	79.5	80.4	76.3	78.5	.945	.938	.858	.914	79	71	84	78	7.75	3	4	7
May, ...	.915	.724	.838	.826	83.0	85.9	84.1	80.6	90.3	73.3	17.0	148.0	69.7	S & S W.	72	77.1	78.4	75.7	77.0	.848	.865	.824	.844	76	70	80	75	7.85	3	5	5
June, ...	.872	.747	.831	.816	82.4	85.8	79.5	80.2	89.2	72.8	16.4	151.9	69.3	N N E.	123	77.0	78.9	75.4	77.0	.847	.888	.819	.851	76	72	81	76	5.09	2	4	4
July, ...	.866	.742	.830	.812	83.3	87.4	79.9	80.8	89.4	72.8	16.5	146.9	69.0	N N E.	111	77.2	78.3	75.2	76.9	.853	.847	.807	.834	72	65	79	73	12.39	2	4	6
August, ...	.887	.760	.845	.830	81.9	86.8	83.2	80.2	89.3	72.7	16.6	141.7	69.2	N E.	117	77.2	78.1	75.3	76.9	.861	.866	.823	.850	78	67	82	75	6.86	4	4	6
September,	.873	.743	.826	.813	82.5	84.2	78.4	79.6	89.3	72.9	16.4	135.0	69.4	N N E.	118	77.9	78.3	75.0	77.0	.898	.893	.819	.817	80	76	85	80	11.28	5	6	6
October, ...	.900	.772	.861	.844	81.6	81.5	79.0	79.6	89.0	72.3	16.7	134.0	69.2	N E.	119	77.4	78.0	74.8	76.7	.885	.854	.804	.847	81	69	81	77	20.33	4	6	7
November, ...	.893	.771	.838	.830	80.9	87.2	79.4	79.9	90.3	72.5	17.7	145.5	68.8	S S W.	132	76.1	78.3	75.7	76.7	.836	.847	.830	.838	79	65	82	75	4.84	2	5	5
December, ...	.872	.757	.872	.833	83.0	85.0	77.0	81.0	89.0	73.0	16.0	133.0	72.0	S W.	13	78.0	79.0	76.0	77.0	.893	.911	.886	.896	79	76	95	83	3.10	4	3	6
Mean, ...	29.893	29.760	29.847	29.833	82.5	86.2	79.5	82.7	89.8	72.8	17.0	143.0	69.4	...	92	75.8	78.7	75.4	76.6	.867	.853	.843	.854	73	70	74	72	Total 96.24	3	4	5

\* The mean Temperature is computed from results of Observations at the 9 H. 15 H. 21 H. and Minimum Temperature.



Annual Abstract of Meteorological Observations, taken at Malacca, in Lat.  $2^{\circ} 10' N.$ , Long.  $102^{\circ} 14' E.$ , for the year 1890.  
Height of Bar : Cistern, 12 feet above sea level.

Months.	Barometrical Readings corrected and reduced to 32° Fah.				Temperature of Air.							Tempera- ture of Radiation.		Wind.		Temperature of Evaporation.				Computed Vapour Tension.				Relative Humidity.				Rainfall during the month.	Propor- tion of Clouds. 0 to 10.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	* Mean.	Maximum.	Minimum.	Range.	In the Sun.	On Grass.	Prevailing Direction.	Velocity.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.
	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.		Miles	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	Ins.			
January, ...	29.805	29.800	29.807	29.804	80.9	83.9	81.8	80.4	87.8	75.2	12.6	153.4	72.2	NNE.	195	78.6	80.2	79.1	79.3	.905	.985	.959	.964	90	85	86	87	3.57	1	3	7
February, ...	.821	.803	.812	.812	81.7	85.0	82.7	81.2	87.3	75.4	11.9	156.1	71.8	NNE.	182	78.9	80.6	79.5	79.7	.955	.988	.981	.975	88	81	87	85	5.51	2	2	6
March, ...	.812	.805	.811	.809	82.6	84.2	82.5	81.0	87.5	74.9	12.6	158.0	72.0	NNE.	151	79.8	80.6	79.6	80.0	.976	.999	.981	.986	86	84	88	86	3.18	1	3	6
April, ...	.812	.808	.816	.812	83.1	84.5	82.6	81.5	87.3	76.0	11.3	158.2	71.5	SSW.	164	79.8	81.3	78.8	80.3	.977	1.033	.983	.997	86	86	87	86	3.29	1	2	7
May, ..	.795	.779	.766	.769	80.7	82.8	79.7	81.6	87.7	74.6	13.0	158.1	71.3	WSW.	169	78.8	81.6	77.1	78.6	.844	1.088	.944	.975	91	86	91	90	4.64	1	2	6
June, ...	.869	.824	.809	.811	81.1	84.8	81.5	82.4	86.5	75.1	11.4	158.8	71.5	WSW.	165	79.6	81.8	79.2	80.2	.946	1.073	.971	1.003	92	86	90	89	7.25	1	1	7
July, ...	.805	.808	.805	.805	82.0	81.8	82.0	82.9	87.5	75.2	12.3	157.4	72.0	WSW.	209	79.3	81.1	79.6	80.0	.966	1.014	.979	.986	87	84	89	87	7.10	3	3	7
August, ..	.833	.790	.832	.818	81.2	85.5	81.0	82.2	87.0	71.3	12.6	154.5	71.3	N. & W S W.	135	79.0	80.9	78.2	79.4	.964	.993	.946	.931	83	80	91	87	12.90	3	3	8
September, ...	.797	.805	.801	.801	81.0	84.8	82.9	80.9	87.9	74.9	13.0	158.1	71.6	SS E.	175	78.9	80.7	78.8	79.5	.961	1.002	.959	.974	90	84	92	89	7.26	2	1	7
October, ...	.843	.819	.814	.831	81.1	84.7	80.4	82.0	87.8	75.1	12.6	158.3	71.3	SSW.	177	78.3	81.0	78.3	77.3	.983	1.005	.936	.969	90	80	91	88	8.49	3	3	7
November, ...	.810	.810	.783	.809	81.3	84.0	80.9	82.2	87.2	80.0	17.2	153.6	71.1	WSW.	171	78.3	79.9	77.1	78.1	.903	.950	.946	.960	88	85	89	80	6.35	3	4	6
December, ...	.883	.904	.888	.890	82.7	84.0	84.2	83.6	87.4	70.4	17.0	157.0	70.6	NW. & W.	158	77.8	78.8	77.8	77.8	.888	.917	.948	.917	79	79	86	81	2.80	1	2	4
Mean, ...	29.823	29.812	29.812	29.815	81.6	84.0	81.8	81.8	87.4	74.0	13.4	156.0	71.3	...	171	78.9	80.7	79.0	79.5	.942	1.003	.961	.968	87	83	88	86	Total 72.34	1	2	6

\* The mean Temperature is computed from results of the Observations at the 9 H. 15 H. 21 H. and Minimum Temperature.



Annual Abstract of Rainfall, Straits Settlements, for the year 1890.

Months.	SINGAPORE.												PENANG.					THE DINDINGS.			
	P. & O. Co.'s Depôt, New Harbour.	General Hospital, Sepoy Lines.	Kandang Kerbau Hos- pital Observatory.	PauperHospital,Sarang- gong Road.	Water-works Reser- voir, Thompson Road.	Killiney Estate, Tang- lin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	50-1, Grange Road.	Greatest Rainfall in 24 hours.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Greatest Rainfall in 24 hours.	Lumut.	Pangkor Hospital.	Bruas.	Greatest Rainfall in 24 hours.
January, ... ..	Inches. 7.01	Inches. 12.57	Inches. 8.77	Inches. 10.67	Inches. 10.18	Inches. 9.33	Inches. 5.07	Inches. 9.43	Inches. 19.33	Inches. 9.73	Not registered.	Inches. 2.76	Inches. 5.78	Inches. 6.60	Inches. 8.17	Inches. 6.81	Inches. 2.77	Not re- gistered.	Inches. 11.08	Inches. 8.97	Inches. 3.77
February, ... ..	9.91	9.05	12.47	12.66	14.03	13.70	6.47	10.64	8.49	10.84		Inches. 2.83	9.64	8.90	11.47	8.74	3.25	4.97	6.24	4.71	1.78
March, ... ..	8.69	6.82	9.91	8.08	10.90	6.99	4.11	6.81	7.58	7.66		3.95	1.02	1.57	3.05	3.36	1.26	6.76	6.32	6.08	2.18
April, ... ..	8.85	4.26	7.97	12.32	11.38	6.98	6.46	10.11	8.71	7.99		2.87	6.43	12.11	14.61	11.17	3.50	4.29	8.43	6.92	3.57
May, ... ..	6.37	4.87	3.37	3.73	6.80	4.91	5.60	4.72	2.94	6.58		2.09	7.82	11.92	16.32	12.27	3.32	5.41	7.11	8.91	3.79
June, ... ..	"	5.13	6.61	5.93	6.40	6.02	4.81	6.88	7.42	7.21		2.02	5.06	6.67	11.38	5.40	5.00	0.59	0.83	4.66	3.25
July, ... ..	Not registered.	17.68	20.76	18.52	17.70	21.14	14.84	21.84	21.88	22.38		6.85	13.74	20.42	29.91	20.98	8.10	7.07	9.05	11.29	4.20
August, ... ..		8.05	8.09	7.85	7.99	9.35	13.63	11.65	10.62	9.74		2.97	5.12	7.98	14.61	9.25	3.77	9.92	11.85	7.85	4.50
September, ... ..		7.02	8.29	7.36	8.22	8.62	7.95	8.75	7.49	8.21		3.00	20.74	26.11	31.15	19.33	8.95	5.81	9.33	6.59	2.62
October, ... ..		8.46	9.07	12.46	10.50	8.79	10.00	7.34	9.14	6.29		3.16	21.65	27.80	29.39	35.96	4.99	10.97	10.19	7.87	1.80
November, ... ..		7.35	13.43	18.63	15.85	11.03	10.71	12.88	...	14.12		11.09	4.70	3.05	5.47	3.81	4.91	2.53	4.96	5.84	6.75
December, ... ..	6.28	11.67	14.32	12.12	10.33	5.38	10.57	...	9.82	10.66		5.06	3.85	3.50	3.48	0.31	1.65	3.47	5.42	0.41	2.25
Total,...	40.83	97.54	120.11	132.53	132.07	117.19	95.03	128.62	103.60	100.57	21.75	...	103.90	139.05	177.35	138.49	...	64.22	91.69	81.01	...
Mean, ... ..	117.78												139.69					82.29			



Annual Abstract of Rainfall, Straits Settlements, for the year 1890,—*Continued.*

Months.	PROVINCE WELLESLEY.							MALACCA.																											
	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Bukit Mertajam.	Leper Asylum, Pulau Jerejak.	Greatest Rainfall in 24 hours.	Town.	Tranquerah.	Bandar Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Bukit Bruang.	Merlimau Forest Reserve.	Jelutong.	Umbai.	Durian Tunggul.	Sungei Udang.	Merlimau.	Machap.	Kesang.	Sungei Rambai.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kwala Linggi.	Bukit Sabukor.	Batu Berendam.	Ayer Keroh.	Greatest Rainfall in 24 hours.				
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.			
January, ...	6.80	6.00	5.68	9.48	Not registered.	4.19	2.61	2.82	2.75	2.70	3.57	4.23	3.24	4.20	8.79	1.10	2.70	1.75	2.20	5.05	10.40	11.30	3.32	8.20	4.86	9.29	20.50	3.92	Not registered.	Not registered.	5.60				
February,	8.50	4.20	7.23	5.94		5.73	1.80	5.75	2.88	5.72	5.51	5.77	7.70	10.58	7.70	7.10	2.65	3.10	9.40	2.03	3.30	4.75	0.55	4.50	6.15	4.55	4.80	4.06			4.80				
March, ...	2.60	3.60	3.84	6.10		2.24	2.60	4.50	2.75	3.00	3.18	7.15	4.09	4.56	9.37	5.75	1.84	4.98	0.00	3.67	8.50	6.95	5.60	4.20	7.50	5.81	5.74	3.65			2.53				
April, ...	12.10	16.20	7.75	5.81		9.80	3.25	3.85	2.48	6.20	3.29	6.24	3.35	5.06	14.34	3.15	6.83	5.20	5.40	6.29	9.27	6.60	12.95	6.50	5.66	17.21	10.15	5.10			4.63				
May, ...	10.62	7.30	7.65	7.65		10.91	2.20	3.72	3.74	2.40	4.64	1.15	3.99	2.44	2.06	4.20	2.20	4.27	1.40	4.13	2.61	5.40	0.26	2.70	5.70	1.27	10.10	2.80			3.50				
June, ...	6.40	4.40	5.09	7.42		5.52	4.25	4.98	7.09	7.40	7.25	5.01	9.69	4.39	7.51	4.00	4.10	2.90	6.15	3.93	4.70	5.80	6.18	6.30	3.60	3.03	7.76	6.55			0.20	3.30			
July, ..	14.15	13.90	12.39	10.49		7.74	10.00	8.17	8.85	7.00	7.10	5.70	11.45	5.30	9.86	2.60	7.10	4.60	0.20	8.65	3.86	2.55	5.83	5.20	1.30	3.43	10.61	6.30			0.85	3.30			
August, ..	5.15	7.90	Not registered.	9.47	6.86	4.81	3.00	13.53	16.35	14.20	12.90	13.84	19.50	13.31	16.34	12.60	13.08	8.15	0.50	13.43	10.71	10.74	12.15	9.07	10.95	8.93	17.40	12.71	7.40	6.08	4.80				
September,	19.78	13.90		9.66	11.28	14.68	5.52	11.76	9.20	9.10	7.26	6.88	10.62	8.04	5.03	5.75	9.05	5.53	3.50	10.73	7.13	5.40	6.10	4.93	5.10	4.44	11.74	8.77	2.60	6.52	3.90				
October, ...	24.20	25.00		16.33	20.33	13.97	5.58	6.15	6.30	8.30	8.49	7.62	7.69	7.51	5.09	5.60	9.16	5.52	2.00	6.77	7.09	4.70	5.22	5.89	10.95	6.51	9.25	8.63	2.85	7.53	3.00				
November,	5.10	1.35		6.87	4.84	4.06	1.50	4.14	4.50	6.20	6.35	8.67	7.64	9.06	11.95	6.15	4.82	8.85	6.10	9.27	7.59	4.80	6.65	8.30	16.05	5.82	15.82	9.70	3.34	10.11	3.50				
December,	2.33	0.40	3.88	3.10	1.15	1.45	1.13	0.00	2.70	2.80	3.69	2.19	6.10	2.82	3.60	6.45	5.89	7.55	3.53	3.93	7.90	1.82	5.14	2.65	4.96	18.10	2.11	1.20	0.00	8.50					
Total,...	117.73	104.15	49.83	99.10	46.41	84.80	...	70.50	66.89	74.92	72.34	75.95	91.15	80.55	100.86	61.60	69.98	60.74	44.40	77.48	79.09	76.89	66.63	70.93	80.41	75.25	141.97	74.60	18.44	30.24	...				
Mean,	100.40							72.29																											



Table shewing the Mean Monthly Rainfall, and Mean Number of Rainy Days registered at Singapore, from 1869 to 1890.

Years.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.		Years.
	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	Inches.	days.	
1869	3.93	12	3.23	12	3.37	8	9.23	16	9.19	16	6.81	11	5.42	13	12.31	18	3.13	12	5.11	15	8.24	21	20.66	26	90.63	180	1869
1870	18.25	24	7.80	21	3.15	14	8.81	17	5.01	10	11.51	17	5.11	11	11.36	17	12.62	18	9.99	17	11.54	25	18.13	18	123.24	209	1870
1871	11.05	19	7.69	19	12.95	21	4.85	11	3.96	12	4.59	11	12.42	16	6.69	18	8.97	19	12.36	16	11.36	17	12.56	16	109.45	195	1871
1872	2.37	4	7.72	18	3.43	8	4.15	12	5.12	9	4.89	14	6.43	13	7.12	14	10.79	16	5.74	16	11.54	22	6.00	15	75.30	161	1872
1873	7.16	14	9.57	17	9.74	16	10.54	17	5.50	10	4.81	10	3.55	10	6.08	11	3.00	8	7.93	16	12.56	20	5.16	17	85.60	166	1873
1874	3.88	15	2.34	10	3.20	13	6.34	14	5.78	15	6.39	12	6.32	17	10.58	16	11.02	14	7.09	15	16.37	20	7.56	17	87.05	178	1874
1875	2.91	11	7.02	11	16.92	21	6.47	13	4.09	13	9.53	13	4.26	10	8.36	13	8.24	12	8.29	16	11.37	18	6.50	15	93.96	166	1875
1876	3.97	11	1.84	6	4.62	13	7.23	11	7.86	12	10.58	17	4.46	10	9.32	12	7.19	14	10.67	17	12.06	19	10.39	21	89.91	163	1876
1877	2.89	7	5.74	12	5.01	10	1.37	6	4.05	10	11.47	12	5.70	12	4.00	8	2.74	6	2.09	8	5.24	11	8.07	17	58.37	119	1877
1878	13.57	19	7.29	14	2.17	5	8.04	14	11.59	17	4.07	13	6.33	13	19.33	18	5.01	11	7.38	10	8.47	16	9.91	20	103.16	170	1878
1879	19.18	22	9.14	13	9.81	17	6.61	14	10.86	14	7.07	10	5.51	12	8.94	15	5.54	11	14.96	20	8.37	15	10.15	18	116.14	181	1879
1880	5.17	17	9.33	14	8.46	16	11.12	15	8.96	16	6.87	13	9.83	13	9.75	15	7.19	18	9.96	15	15.82	21	8.56	16	111.08	189	1880
1881	13.35	12	2.01	4	9.03	16	5.21	9	9.40	13	4.03	10	6.35	12	5.77	11	5.41	11	10.54	14	9.48	16	13.32	16	94.00	144	1881
1882	6.58	15	12.41	18	3.08	7	8.80	14	6.35	12	4.97	11	6.73	9	6.65	14	6.70	12	9.73	16	8.95	15	7.21	15	88.16	158	1882
1883	3.18	7	1.98	5	6.71	10	7.23	13	7.11	10	5.21	9	3.12	9	3.37	11	10.29	14	7.96	16	6.22	18	7.76	19	70.14	141	1883
1884	8.81	18	3.03	8	7.86	12	3.85	9	5.18	13	5.88	15	7.66	11	5.19	12	8.07	13	7.35	12	4.56	22	12.00	11	80.13	146	1884
1885	1.63	7	5.54	13	1.41	5	3.89	8	6.30	16	9.39	14	4.46	8	3.03	8	4.34	10	3.67	8	10.57	18	13.75	19	67.32	134	1885
1886	8.39	13	4.29	8	4.91	9	7.32	13	10.26	18	7.28	15	3.42	9	16.09	16	7.82	14	9.03	15	10.18	17	6.61	12	95.19	159	1886
1887	10.75	19	11.09	18	6.50	17	7.49	15	7.98	16	8.76	14	9.16	10	14.32	19	7.08	15	7.47	15	9.56	17	12.81	20	112.97	195	1887
1888	5.09	8	1.38	5	4.02	11	6.29	12	10.92	14	7.37	9	3.41	9	2.50	8	8.37	14	3.75	10	5.42	15	7.04	13	65.56	128	1888
1889	5.36	17	6.81	13	3.02	8	4.41	12	7.41	13	5.29	14	9.62	17	6.16	12	9.46	15	6.26	18	14.00	21	6.33	14	84.13	174	1889
1890	10.21	17	10.82	15	7.75	17	8.50	17	4.98	14	6.26	13	19.64	16	9.59	19	7.99	19	9.12	20	12.79	21	10.13	18	117.78	206	1890
Mean.	7.62	14	6.27	12	6.22	12	6.71		7.17		6.96	13	6.78	12	8.49	14	7.31	13	8.02	15	10.21	19	10.03	17	91.79	167	...



Chart shewing the Mean Annual Range of the Barometer at Singapore, from 1881 to 1890.

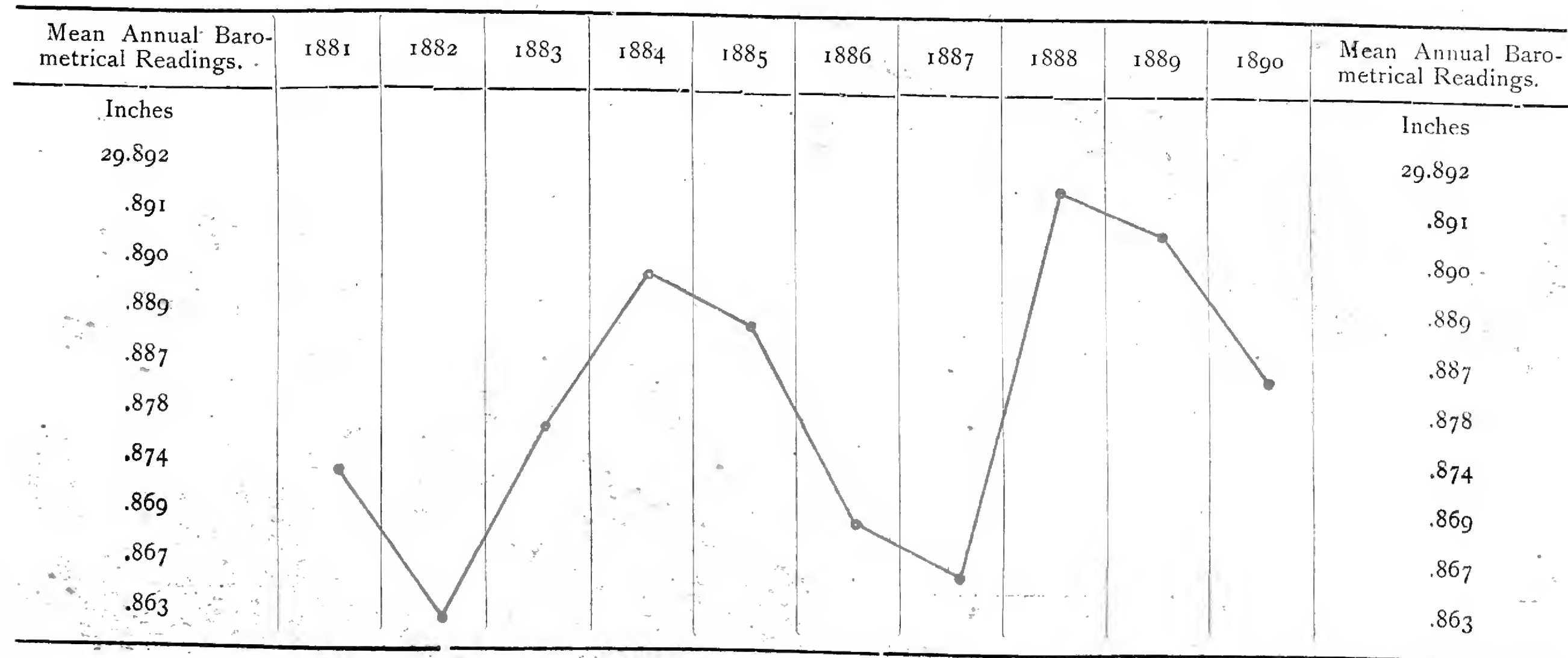
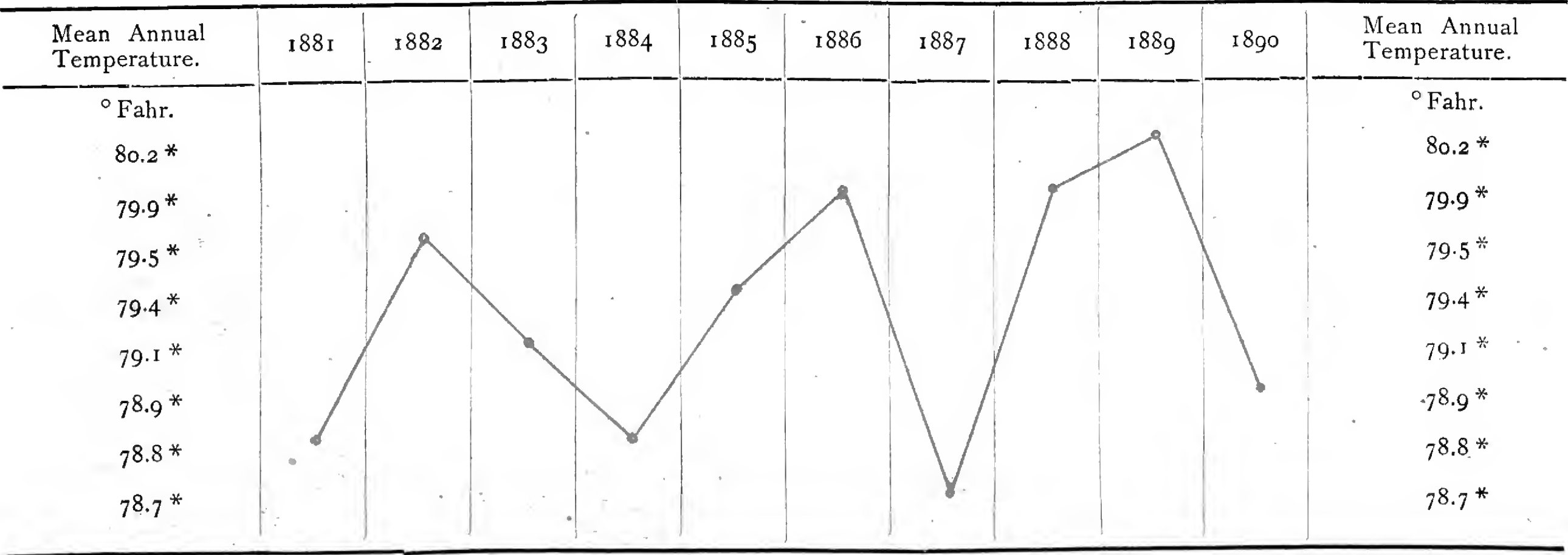




Chart shewing the Mean Annual Range of Temperature at Singapore, from 1881 to 1890.



\*These figures were obtained from the results of the observations at 9H. 15H. 21H. and Minimum Temperature.



Chart shewing the Range of Mean Annual Rainfall at Singapore, from 1881 to 1890.

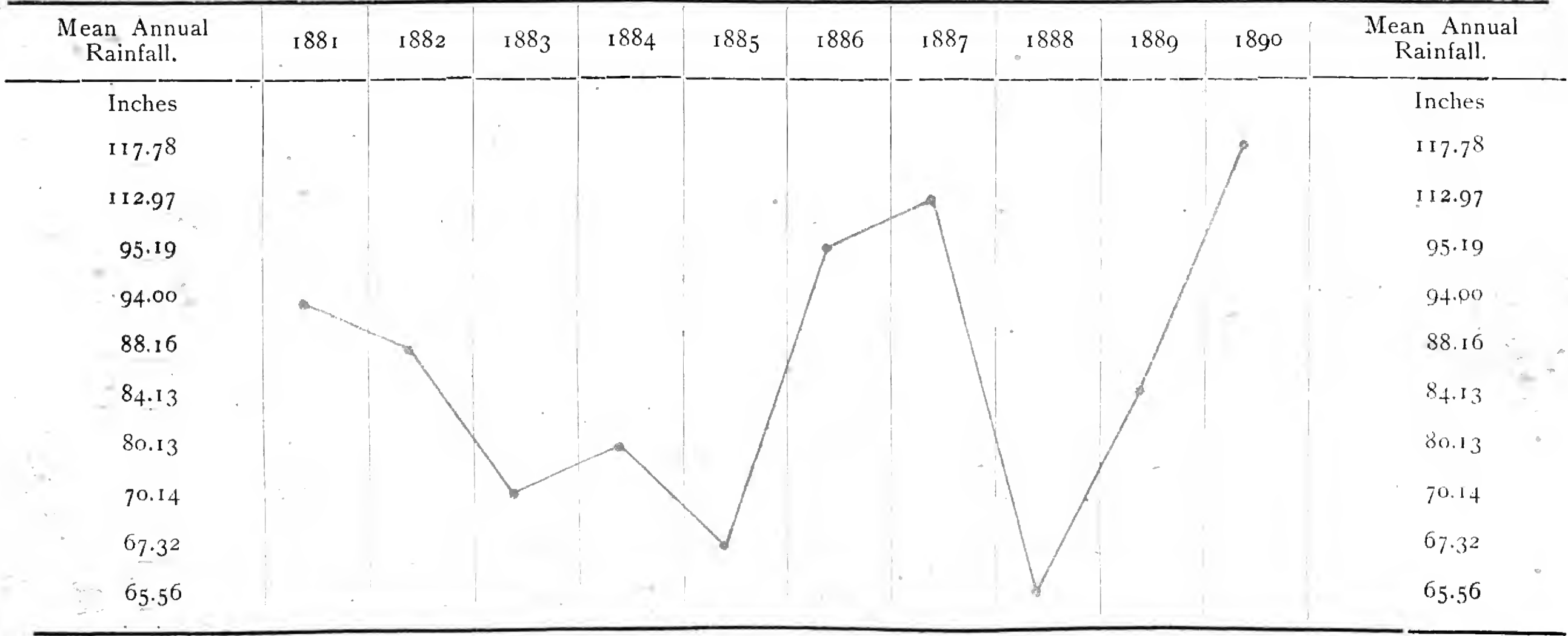
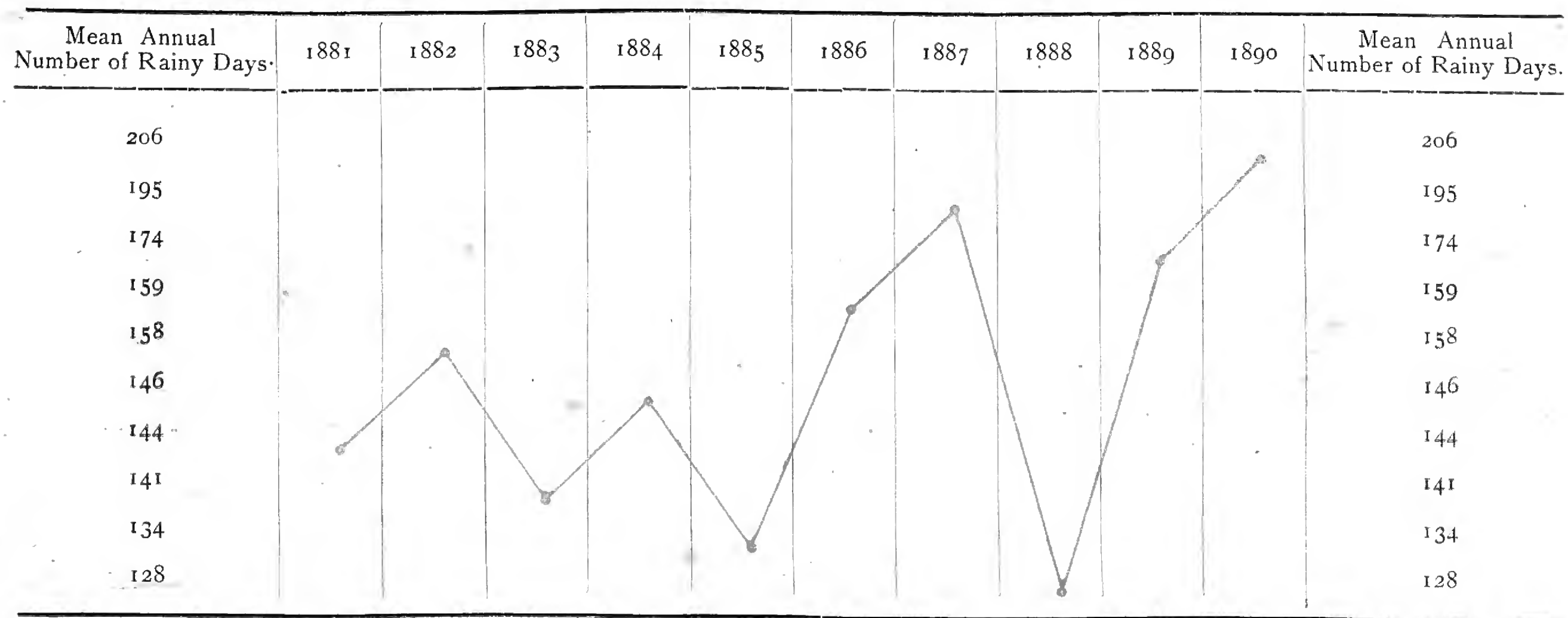




Chart shewing the Range of Mean Annual Number of Rainy Days at Singapore, from 1881 to 1890.





# METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, SINGAPORE, FOR THE MONTH OF JANUARY, 1890.

10°17' N. Lat., 103°51' E. Long.

Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.						TEMPERATURE OF RADIATION.				WIND.		Velo- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN  INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.				
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.	
1	29.865	29.778	29.829	29.824	82.0	85.0	77.3	79.4	87.9	73.4	14.5	155.5	67.6	72.0	1.4	NE.	NE.	Calm.	134	78.5	78.0	75.0	77.2	929	834	841	868	85	72	90	82	...	2	8	2	C.b.	C. o.	C.b.
2	891	790	866	849	83.8	83.8	75.8	79.5	88.5	74.5	14.0	150.5	62.0	72.5	2.0	NE.	NE.	Calm.	134	78.8	78.0	74.8	77.2	909	882	850	880	79	76	95	83	.93	2	10	6	C.b.	Pe, o, r.	C, Pe, o, r
3	907	798	905	871	81.3	84.5	75.8	78.7	86.3	72.5	13.8	153.5	67.2	71.8	0.7	WNW.	W.	Calm.	132	76.8	78.8	75.0	76.9	862	880	861	868	81	80	97	86	.48	8	10	10	Ck, o.	Pe, o,	Pe, o, r.
4	932	815	905	884	79.5	78.0	75.8	76.7	85.8	72.5	13.3	144.5	58.7	71.8	0.7	NE.	Calm.	NE.	132	76.0	75.0	75.0	75.3	852	829	862	848	85	86	95	89	1.55	10	10	10	C, o.	Pe, o, r, t.	Pe, o,
5	975	875	913	931	75.8	80.8	75.0	75.9	80.9	71.9	9.0	11.5	29.6	70.3	1.6	NE.	NE.	NE.	144	78.8	78.8	73.5	75.4	834	958	807	866	91	91	93	92	1.10	10	10	8	Pe, o.	Pe, o, r.	Pe, o, r.
6	30.026	920	968	971	77.3	81.8	74.8	75.9	82.3	69.8	12.5	130.5	48.2	67.8	2.0	NW.	NE.	Calm.	147	75.3	75.8	73.3	74.6	852	903	802	846	91	75	93	86	.09	10	10	10	Pe, o.	Pe, o, d.	Pe, o.
7	29.976	884	942	934	79.9	84.3	75.5	77.8	85.8	71.5	14.3	150.3	64.7	67.9	3.6	NW.	NNW.	Calm.	132	76.3	78.3	75.0	76.5	861	885	863	869	85	75	93	86	...	10	6	8	Pe, c, o.	Ck, c.	Pe, o.
8	919	826	915	897	77.5	86.8	76.0	78.1	86.9	72.0	14.9	143.5	56.6	68.6	4.0	NW.	WNW.	Calm.	132	74.8	77.8	74.5	75.7	829	831	835	832	87	65	93	82	...	6	4	6	K, c.	K, b.	C, b.
9	944	844	911	899	81.5	76.8	75.0	76.0	85.0	70.8	14.2	151.5	66.5	68.8	2.0	NW.	NW.	NE.	142	76.5	74.8	74.0	75.1	846	837	828	838	79	91	95	88	.05	6	10	10	C, es, c.	Pe, o,	Pk, Pe, o.
10	920	826	903	881	76.8	82.0	74.8	76.1	82.8	70.9	11.9	133.5	50.7	69.9	1.0	NW.	NE.	Calm.	143	74.3	75.0	72.8	74.0	816	725	811	784	88	71	90	83	...	10	8	6	C, Pe, o.	Pe, k, o.	C, c.
11	926	826	888	878	74.0	78.3	71.0	74.6	74.4	72.2	6.2	92.7	14.3	70.0	2.2	NE.	NNW.	Calm.	145	72.5	76.8	73.5	74.3	780	903	821	835	93	93	98	95	.05	10	10	10	Pe, o, d.	Pe, o, d.	Pe, o.
12	901	836	900	879	73.0	74.5	74.8	74.8	78.0	72.0	6.0	94.3	16.3	70.0	2.0	NW.	NNW.	Calm.	150	73.5	73.0	73.0	73.2	768	793	790	784	80	93	92	88	1.53	8	10	10	Pe, o, d.	Pe, o, r.	Pe, o, r.
13	895	770	818	828	79.0	81.8	75.5	77.1	81.8	72.2	9.6	138.3	56.5	70.3	1.9	NE.	NW.	Calm.	151	76.8	78.0	75.0	76.6	983	911	863	919	99	84	98	94	.70	10	8	10	Pe, o, r.	Pe, o, r.	Pe, o, r.
14	863	751	817	823	79.0	83.0	76.0	77.9	81.5	73.5	11.0	137.2	52.7	70.6	2.5	NNW.	NNW.	Calm.	154	76.3	76.8	74.8	75.9	872	840	848	853	87	74	94	85	.33	6	6	8	Ck, c.	Cs, k, c.	Pe, o.
15	896	761	831	831	75.5	78.3	75.8	75.6	78.8	72.8	6.0	104.5	25.7	70.3	2.5	WNW.	NW.	Calm.	152	74.8	75.8	74.8	75.1	855	860	852	856	97	89	95	90	.23	10	10	10	Pe, o, r.	Pe, o, d.	Pe, o.
16	877	782	823	831	79.0	81.8	75.5	77.5	81.9	73.6	8.3	127.6	45.7	71.0	2.6	WNW.	N.	Calm.	142	76.8	78.3	74.5	76.5	870	919	844	878	90	85	95	90	.22	6	4	10	Pe, c.	Ck, b.	Pe, o.
17	901	782	841	812	80.0	85.0	75.8	78.0	85.8	71.2	14.6	152.5	66.7	68.5	2.9	NW.	NE.	Calm.	135	76.8	77.8	74.8	76.5	880	859	850	863	86	76	95	81	.10	6	6	4	C, c.	Pe, k, e, d.	K, b.
18	881	791	886	851	81.8	85.0	76.3	78.9	85.8	72.5	13.3	150.5	64.7	71.5	1.0	NW.	W.	Calm.	134	77.8	79.0	75.0	77.3	899	911	853	888	83	76	94	84	...	6	6	2	C, c.	Ck, c.	Cs, b.
19	871	798	851	840	80.5	85.0	78.5	79.4	85.8	73.5	12.3	156.5	70.7	72.3	1.2	NW.	SSW.	Calm.	132	76.8	78.8	76.5	77.4	874	902	887	888	84	75	91	83	.40	6	6	2	Ck, c.	Ck, c.	Cs, b.
20	892	778	870	817	79.3	81.8	76.8	77.9	81.9	73.5	8.4	118.9	37.0	70.2	3.3	SSW.	SSW.	Calm.	131	75.3	75.8	75.3	75.5	825	812	858	828	82	75	93	83	...	10	10	2	Pe, o, r.	Ck, o.	Cs, b.
21	893	800	880	858	80.2	84.3	77.0	78.7	84.5	73.3	11.2	140.5	56.0	70.5	2.8	W.	E.	Calm.	130	76.0	76.8	75.5	76.1	813	812	864	839	81	70	93	81	...	6	6	2	C, k, c.	C, c.	Cs, b.
22	877	782	848	836	83.8	84.5	78.0	80.1	86.8	73.9	12.9	155.9	69.1	70.3	3.6	NE.	NE.	Calm.	130	77.8	78.8	76.5	77.7	872	908	872	881	75	76	91	80	...	4	2	2	K, c, b.	K, b.	Cs, b.
23	891	799	880	857	84.3	78.8	75.8	78.2	85.8	73.8	12.0	145.9	60.1	72.3	1.5	NE.	NE.	NE.	130	78.0	75.8	75.0	76.2	876	890	860	877	75	72	97	81	.02	6	10	8	C, c.	Pe, o, d.	Pe, o.
24	930	809	915	885	81.5	80.5	75.8	77.7	81.8	72.5	9.3	126.5	44.7	70.6	2.6	WNW.	WSW.	Calm.	138	78.0	75.6	75.5	76.4	913	916	883	901	85	79	98	87	.09	8	10	10	C, o.	Pe, o, d.	Pe, o.
25	912	990	885	862	79.5	85.3	77.8	79.2	86.8	71.0	12.8	158.5	71.7	70.3	3.7	NW.	NE.	Calm.	130	75.5	77.3	75.3	76.0	830	830	844	835	82	98	89	87	...	8	8	8	Ck, o.	C, o.	Pe, o.
26	907	817	889	871	80.0	75.5	74.0	78.0	86.0	72.5	13.5	130.5	44.5	68.9	3.6	NE.	SSW.	Calm.	130	77.0	74.0	73.0	74.7	889	821	800	837	87	93	95	92	.67	4	10	10	K, b.	Pe, o, r.	Pe, o.
27	898	798	898	865	82.3	85.0	78.5	79.5	86.8	72.2	14.6	154.5	67.7	68.5	3.7	NW.	NE.	NE.	130	78.0	78.8	76.5	77.8	897	903	887	896	80	75	91	82	.08	4	8	2	C, Cs, b.	C, o, d.	Cs, b.
28	897	842	863	867	83.5	85.0	75.8	79.2	87.8	72.5	15.3	155.5	67.7	63.4	4.1	NW.	NNW.	Calm.	129	79.0	79.0	74.8	77.6	832	911	850	898	81	76	95	84	.15	2	6	10	Kc, b.	Pe, c.	Pe, o, r.
29	877	867	950	898	80.8	87.9	76.8	79.3	87.9	71.9	16.0	150.5	62.6	66.9	5.0	NE.	NNW.	NE.	130	76.0	77.4	75.9	76.4	836	799	879	838	78	61	95	78	...	6	6	2	C, c.	Ck, c.	K, b.

Highest Atmospheric Pressure 30.026 Inches.  
 Lowest Atmospheric Pressure 29.758 "  
 In the shade, { Highest Temperature 88.5 Fah.  
 { Lowest Temperature 69.8 "  
 Greatest Fall of Rain in 24 hours 1.55 Inches.

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

MAX. F. SIMON,  
 Acting, Principal Civil Medical Officer, S.S.



METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF FEBRUARY, 1890.  
 1°17' N. Lat., 103°-51 E. Long. Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.						TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.																																																																																																																																																																																																																																																																																																																																																																																									
																9 H.	15 H.	21 H.																																																																																																																																																																																																																																																																																																																																																																																																																	
1	30.037	29.923	30.034	29.998	82.0	86.8	77.0	79.6	87.0	72.5	14.5	158.5	71.5	68.9	3.6	NW.	NE.	Calm.	131	76.0	75.7	74.0	75.2	818	742	801	787	75	58	86	73	...	6	2	2	Ck, c.	C, b.	Ck, b.																																																																																																																																																																																																																																																																																																																																																																																													
2	29.918	847	29.901	889	83.0	86.6	79.2	80.2	88.2	72.0	16.2	156.8	68.6	66.0	6.0	NE.	NW.	Calm.	130	75.8	75.0	74.8	75.2	796	713	814	774	71	56	81	69	...	4	4	2	Ck, b.	Ck, b.	Ck, b.																																																																																																																																																																																																																																																																																																																																																																																													
3	974	917	967	953	82.9	87.8	77.5	80.1	88.2	72.2	16.0	157.2	69.0	67.8	4.4	NNW.	NNW.	Calm.	130	76.5	76.5	75.0	76.0	809	752	836	799	75	58	89	74	...	2	6	2	C, b.	K, c.	Ck, b.																																																																																																																																																																																																																																																																																																																																																																																													
4	945	866	937	916	83.2	79.9	76.0	77.9	86.7	72.4	14.3	161.9	75.2	67.9	4.5	NNW.	NE.	Calm.	143	76.2	76.4	74.8	75.8	804	864	848	831	71	85	75	84	...	4	6	6	C, Ck, b.	Pk, c.	Ck, c.																																																																																																																																																																																																																																																																																																																																																																																													
5	983	886	946	944	81.8	83.0	78.3	79.2	86.5	73.8	12.7	155.5	69.0	69.0	4.0	NE.	NE.	Calm.	131	76.3	76.5	75.3	76.0	834	826	838	833	77	73	87	79	...	4	8	10	K, b.	Pc, o.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
6	30.002	866	957	942	80.5	80.5	78.8	77.9	88.2	72.0	16.2	158.5	70.3	68.9	3.1	NE.	NE.	NE.	132	75.5	76.5	75.0	75.7	817	860	819	832	78	83	83	81	.07	6	10	10	Ck, c.	Pc, o, r.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
7	29.961	855	921	912	81.8	78.8	75.0	77.1	87.8	72.8	15.0	155.2	67.4	71.8	1.0	NE.	WSW.	Calm.	179	75.8	76.0	74.0	75.3	801	863	828	831	75	88	95	86	1.24	2	10	6	K, b.	Pc, o, r.	Pc, c.																																																																																																																																																																																																																																																																																																																																																																																													
8	963	853	952	923	79.0	83.8	75.8	78.3	87.0	74.5	12.5	159.5	72.5	71.9	2.6	NW.	WSW.	Calm.	135	76.4	78.5	74.8	76.6	876	905	851	877	88	78	95	87	.02	6	8	10	C, Cs.	Pc, o.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
9	957	870	923	917	81.8	77.8	75.0	77.8	87.0	73.8	13.2	153.5	66.5	71.8	2.0	NNW.	WSW.	Calm.	154	77.2	75.8	74.5	76.0	898	865	849	871	83	91	98	91	...	2	10	10	K, b.	Pc, o, r.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
10	967	832	931	910	81.8	86.8	78.0	80.8	87.3	73.5	13.8	153.5	66.2	70.5	3.0	WNW.	NE.	NE.	135	76.3	77.8	75.0	76.4	793	831	829	818	66	65	86	72	...	8	6	10	Ck, o.	C, c.	Pc, o, d.																																																																																																																																																																																																																																																																																																																																																																																													
11	929	796	922	882	81.8	85.3	75.5	79.2	86.2	74.3	11.9	154.5	68.3	73.4	0.9	NW.	SSW.	Calm.	131	76.8	78.8	74.5	76.7	854	896	843	864	79	74	95	83	.10	8	2	10	Ck, c.	K, b.	Pc, o, d.																																																																																																																																																																																																																																																																																																																																																																																													
12	936	855	917	903	80.0	82.0	74.5	77.3	86.0	72.5	13.5	131.8	45.8	70.5	2.0	WNW.	WNW.	Calm.	131	77.5	77.8	73.5	76.3	916	898	814	876	89	82	95	89	2.22	10	4	10	Pc, o.	Pc, o, r.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
13	924	823	909	885	78.5	85.0	78.0	78.8	86.2	73.5	12.7	154.0	67.8	69.9	3.6	W.	W.	Calm.	131	76.3	76.0	76.8	76.4	879	777	903	855	90	64	94	83	...	10	6	10	Pc, o, r.	C, c.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
14	925	781	878	861	82.0	83.3	76.8	79.2	86.5	74.5	12.0	158.2	71.7	70.5	4.0	NW.	SSW.	Calm.	131	76.8	77.8	75.2	76.6	854	879	852	862	77	77	92	82	.10	6	4	2	C, c.	Pc, b, r.	C, c.																																																																																																																																																																																																																																																																																																																																																																																													
15	913	793	901	869	79.3	75.8	74.5	75.1	81.2	70.8	10.4	131.8	50.6	68.8	2.0	WSW.	WNW.	Calm.	134	77.0	74.5	74.0	75.2	899	860	831	864	86	98	98	94	1.02	6	10	6	Pc, c, d.	Pc, o, r.	Pc, c.																																																																																																																																																																																																																																																																																																																																																																																													
16	906	738	831	825	81.8	85.0	78.2	79.5	85.9	73.0	12.9	159.2	73.3	70.0	3.0	NW.	S.	Calm.	142	77.0	79.0	77.0	77.7	865	911	827	868	80	76	85	80	...	2	3	2	Cs, b.	Ck, b.	Cs, b.																																																																																																																																																																																																																																																																																																																																																																																													
17	899	779	863	849	80.5	76.9	76.0	76.5	82.9	72.5	10.4	145.5	65.6	71.5	1.0	NE.	NE.	Calm.	143	78.8	76.2	75.0	76.7	962	898	856	905	92	97	95	95	2.00	4	10	10	Pc, b.	Pc, o, r.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
18	930	779	860	856	83.3	75.0	75.5	76.5	86.2	72.2	14.0	152.2	66.0	63.8	3.4	WNW.	NNW.	Calm.	142	78.5	74.0	74.5	75.7	911	828	842	860	80	95	95	90	1.34	2	10	10	Cs, b.	Pc, o, r.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
19	905	835	896	879	82.0	77.8	75.5	78.5	86.6	72.5	14.1	153.2	66.6	69.0	3.5	NW.	NW.	Calm.	145	78.0	75.8	74.5	76.1	906	858	852	872	83	89	95	86	.85	4	10	8	Ck, b.	Pc, o, r.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
20	961	817	900	893	81.8	83.0	76.5	78.6	86.9	68.9	18.0	152.6	65.7	66.7	2.2	NNW.	SSW.	Calm.	116	76.8	78.2	75.5	76.8	856	814	864	845	79	73	93	82	.43	4	10	10	C, b.	Pc, o, r.	Pc, o.																																																																																																																																																																																																																																																																																																																																																																																													
21	945	780	920	882	80.8	84.8	76.5	78.4	86.9	71.5	15.4	151.0	64.1	68.8	2.7	NW.	SSE.	Calm.	144	76.0	78.6	75.5	76.7	835	854	874	854	79	78	95	84	...	2	4	2	Ck, b.	C, b.	C, b.																																																																																																																																																																																																																																																																																																																																																																																													
22	959	822	907	896	82.0	84.3	78.0	79.2	86.9	72.3	14.6	148.0	61.1	69.8	2.5	NW.	NNE.	Calm.	134	76.5	77.9	77.0	77.1	840	874	916	877	77	74	95	82	...	6	2	2	C, c.	Ck, b.	Cs, b.																																																																																																																																																																																																																																																																																																																																																																																													
23	912	816	901	876	83.8	84.5	77.3	79.5	87.2	72.5	14.7	153.2	71.0	71.8	0.7	NNE.	ENE.	Calm.	149	78.5	78.8	75.8	77.7	908	908	916	910	78	76	93	82	.93	6	4	0	Ck, c.	C, b.	b.																																																																																																																																																																																																																																																																																																																																																																																													
24	948	850	909	902	82.6	81.8	78.0	78.6	84.8	72.0	12.8	148.5	63.7	68.9	3.1	NW.	NNW.	Calm.	135	78.3	77.8	77.0	77.7	912	899	922	911	82	83	95	87	.02	4	2	2	Ke, b.	C, b.	C, b.																																																																																																																																																																																																																																																																																																																																																																																													
25	959	826	931	906	82.0	83.2	76.5	78.2	84.6	71.3	13.3	134.0	4.94	69.5	1.3	NE.	NNW.	NE.	135	77.0	77.0	75.0	76.3	862	845	849	852	79	75	93	82	...	4	6	2	K, b.	C, c.	C, b.																																																																																																																																																																																																																																																																																																																																																																																													
26	961	809	973	914	82.0	82.4	75.0	77.6	84.9	69.9	15.0	148.8	53.9	6.88	1.1	NE	WNW.	Calm.	130	78.8	77.0	74.5	76.6	943	858	848	882	88	78	98	87	...	4	8	2	C, Cs, b.	Pc, o.	K, b.																																																																																																																																																																																																																																																																																																																																																																																													
27	906	847	873	905	82.8	83.2	74.8	78.5	84.9	73.2	11.7	155.4	70.3	70.0	3.2	NW.	SSW.	Calm.	169	78.2	78.4	74.0	76.9	904	905	834	881	80	80	98	86	2.13	4	8	10	K, C, c.	K, C, b.	b.																																																																																																																																																																																																																																																																																																																																																																																													
28	985	900	963	919	82.7	85.2	75.5	78.7	87.8	71.2	16.6	162.5	74.7	66.9	4.3	NW.	NW.	Calm.	135	78.5	78.2	74.5	77.1	920	872	842	878	82	72	95	83	...	6	4	0	K, C, c.	K, C, b.	b.																																																																																																																																																																																																																																																																																																																																																																																													
Mean.	29.949	29.833	29.918	29.900	81.8	82.4	76.5	78.2	86.2	72.3	13.9	152.5	66.3	69.5	2.8				139	77.2	77.0	75.0	76.4	869	852	850	857	79	77	92	83	Total 12.47	4	6	6																																																																																																																																																																																																																																																																																																																																																																																																
Highest Atmospheric Pressure																																	30.037 Inches																																																																																																																																																																																																																																																																																																																																																																																																		

Highest Atmospheric Pressure 30.037 Inches  
 Lowest Atmospheric Pressure 29.738 "  
 In the Shade, { Highest Temperature 88.2 Fah.  
 { Lowest Temperature 68.9 "  
 Greatest Fall of Rain in 24 hours 2.22 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H 21, H, and Minimum Temperature.

T. C. MUGLISTON  
 Acting Principal Civil Medical Officer, S. S.

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# METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF MARCH, 1890.

1°17' N. Lat., 103°51' E. Long.

Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.						TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.								
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																									
1	29.965	29.819	29.931	29.905	83.3	86.2	76.8	79.2	87.8	70.3	17.5	154.9	67.1	67.0	3.3	NE.	NE.	Calm.	133	75.8	77.8	74.8	76.1	.875	.842	.837	.851	69	67	91	76	...	4	0	2	K, b.	b.	C, b.					
2	.979	.828	.929	.912	82.8	84.5	77.3	79.1	87.8	71.9	15.9	155.5	67.7	68.3	3.6	NE.	NW.	Calm.	131	77.8	78.0	75.2	77.0	.881	.872	.843	.866	79	73	91	81	...	2	8	2	K, b.	Pc, od.	Cs, b.					
3	.966	.841	.927	.911	82.8	86.2	78.8	79.8	88.2	71.5	16.7	163.5	75.3	67.9	3.6	NE.	NW.	NE.	130	77.5	77.0	76.0	76.8	.881	.805	.863	.847	79	64	88	77	...	4	2	2	K, b.	C, b.	Cs, b.					
4	.991	.802	.912	.902	83.5	84.2	77.0	79.7	86.8	74.0	12.8	151.9	65.1	71.8	2.2	NNW.	WNW.	NE.	130	78.0	78.8	76.5	77.8	.886	.915	.908	.963	77	78	98	84	.62	6	2	10	K, c.	C, Pc, b.	Pc, o, r.					
5	30.004	.927	.959	.963	80.0	78.5	75.0	76.3	79.8	71.8	8.0	106.3	26.5	68.8	3.0	NW.	NE.	Calm.	147	76.8	75.8	74.5	75.7	.881	.858	.848	.862	86	88	98	91	.09	10	10	10	Pc, o, d.	Pc, o, d.	Pc, o.					
6	29.942	.858	.937	.912	82.8	86.2	76.2	79.6	87.2	73.2	14.0	157.5	70.3	70.0	3.2	NW.	NE.	Calm.	133	77.8	77.0	75.7	76.8	.885	.805	.884	.858	79	64	98	80	.18	2	2	10	Ck, b.	C, k, b.	Pc, o, r.					
7	.969	...	...	.969	78.8	...	...	76.4	87.3	74.0	13.3	154.5	67.2	68.8	5.2	NW.	...	...	135	76.3	...	...	76.3	.874	...	...	.874	89	...	...	89	.18	6	...	...	C, Ck, c.	...	...					
8	.946	...	...	.946	83.0	...	...	78.6	86.9	74.2	12.7	152.5	65.6	69.9	4.3	NW,	...	...	156	77.0	...	...	77.0	.848	...	...	.848	79	...	...	79	.28	2	...	...	K, c, b.	...	...					
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	141	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
10	.901	.823	...	.862	77.9	80.2	...	76.4	82.9	74.2	8.7	133.6	50.7	68.9	5.3	WNW.	SSE.	...	147	76.5	77.5	...	77.0	.908	.907	...	.908	94	88	...	91	.52	8	0	...	Pc, o, r.	Pc, o, r.	...					
11	.894	.744	...	.819	82.8	85.0	...	80.6	86.8	74.0	12.8	156.2	69.4	70.2	3.2	NE.	ESE.	...	135	78.0	79.4	...	78.2	.933	...	.905	80	78	...	79	...	4	4	...	C, b.	C, k, b.	...						
12	.902	.781	...	.842	83.0	86.0	...	80.8	88.9	73.5	15.4	152.2	62.3	68.3	5.8	NE.	SSE.	...	130	78.0	78.8	...	78.4	.893	.889	...	.891	79	72	...	76	...	2	5	...	K, b.	K, c.	...					
13	.882	.775	.885	.847	84.2	85.8	79.0	80.6	88.2	73.2	15.0	151.2	66.0	69.9	3.3	SSE.	SSE.	Calm.	130	77.0	79.5	76.5	77.7	.832	.924	.880	.879	70	74	89	78	...	2	2	0	K, b.	K, b.	b.					
14	.894	.757	.888	.846	85.8	85.0	79.5	80.6	87.7	72.0	15.7	156.5	68.8	67.0	5.0	NW.	SSW.	Calm.	129	78.8	78.8	77.5	78.4	.892	.903	.917	.904	72	73	91	79	...	4	2	2	K, b.	C, k, b.	K, b.					
15	.931	.841	.910	.894	84.0	86.8	79.7	80.9	88.9	73.2	14.7	164.0	75.1	69.9	3.3	NW.	SE.	Calm.	131	77.5	79.2	77.2	77.9	.856	.896	.901	.884	72	70	89	77	...	2	2	2	C, b.	C, b.	Ck, b.					
16	.917	.746	.890	.851	84.8	88.0	78.5	80.8	91.2	71.8	19.4	153.9	62.7	67.9	3.9	NNW.	NNW.	Calm.	130	78.2	78.2	77.5	77.9	.870	.830	.931	.877	73	63	95	77	...	2	4	2	K, b.	C, b.	C, b.					
17	.943	.766	.909	.873	80.8	85.8	78.2	79.2	88.3	72.0	16.3	157.0	68.7	68.0	4.0	WSW.	NNW.	Calm.	129	76.3	78.0	76.0	76.8	.847	.856	.870	.858	80	69	90	79	...	2	2	2	K, b.	K, b.	C, b.					
18	.887	.803	.867	.852	79.0	83.3	77.2	78.5	87.8	74.5	13.3	120.5	32.7	72.5	2.0	NW.	WSW.	Calm.	129	78.3	79.5	76.3	78.0	.960	.958	.893	.937	97	84	96	92	.04	2	10	6	C, b.	Pc, o, d.	K, c.					
19	.866	.718	.854	.813	81.8	82.6	73.8	79.2	88.2	73.5	14.7	161.0	72.8	69.9	3.6	WNW.	NNW.	Calm.	130	78.3	78.5	77.8	78.2	.922	.968	.865	.918	87	87	89	88	.56	6	8	2	K, c.	P, c, o.	K, b.					
20	.837	.722	.832	.797	84.2	88.8	78.0	81.1	89.0	73.2	15.8	156.0	67.0	69.9	3.3	NE	NNW.	Calm.	130	80.5	78.2	77.0	78.6	.893	.838	.916	.882	77	63	95	78	...	4	2	2	K, b.	C, k, b.	C, b.					
21	.842	.733	.837	.805	85.0	84.9	77.5	80.7	87.3	75.2	12.1	149.8	62.5	70.5	4.7	NNW.	SSW.	Calm.	142	79.5	79.8	76.5	78.6	.934	.953	.891	.926	78	79	95	84	1.74	3	10	10	K, b.	Pc, o, r.	Pc, o.					
22	.838	.732	.780	.783	84.8	79.0	76.5	78.3	86.9	72.8	14.1	159.9	73.0	70.6	2.2	NNW.	WNW.	Calm.	145	79.0	78.8	74.5	76.8	.915	.894	.829	.879	76	90	91	86	2.46	2	10	6	K, b.	Pc, o, r.	Pc, c.					
23	.830	.715	.735	.760	85.8	78.0	76.0	78.4	89.9	73.5	16.4	148.9	59.0	70.8	2.7	NNW.	WNW.	Calm.	143	79.2	76.0	75.0	76.7	.909	.872	.856	.879	75	91	95	87	1.05	2	10	2	C, b.	Pc, o, r.	K, b.					
24	.873	.744	.870	.829	84.8	84.0	76.8	79.4	86.8	72.0	14.8	157.0	70.2	68.4	3.6	NW.	SSW.	Calm.	138	80.0	79.2	74.5	77.9	.963	.938	.829	.909	81	81	90	84	.96	4	2	2	K, b.	C, b.	C, b.					
25	.878	.847	.868	.864	84.4	82.0	77.0	78.8	87.2	74.8	15.4	157.5	70.3	68.0	3.8	NW.	SSW.	Calm.	131	79.8	78.8	75.5	78.0	.957	.945	.843	.915	81	86	91	86	...	2	8	2	Cs, b.	Pk, o.	K, b.					
26	.858	.751	.854	.821	83.0	86.0	79.0	80.4	88.3	73.5	14.8	139.5	51.2	70.0	3.5	NW.	WSW.	Calm.	130	77.8	79.5	76.5	77.9	.884	.920	.880	.895	78	74	89	80	...	2	4	2	K, b.	C, b.	K, b.					
27	.875	.793	.834	.834	80.5	83.0	78.9	78.5	87.2	71.8	15.4	144.5	57.3	69.9	1.9	NW.	NW	NW.	130	77.5	77.3	76.7	77.2	.904	.861	.890	.835	87	76	90	84	.15	8	6	8	C, o.	C, Cs, c.	Pc, o, r.					
28	.884	.791	.848	.843	81.8	79.8	77.0	78.0	87.9	73.5	14.4	148.5	60.6	72.0	1.5	NW.	WNW.	Calm.	130	77.0	76.6	75.5	76.4	.865	.872	.864	.874	80	86	93	86	.06	8	9	10	C, o.	Pc, o, d.	Pc, o, d.					
29	.890	.791	.864	.848	84.8	86.5	78.4	80.9	89.9	73.9	16.0	161.5	71.6	71.2	2.7	NNW.	NE.	WNW.	130	79.0	79.8	77.4	78.7	.915	.927	.927	.923	77	74	95	82	1.00	6	10	6	C, c.	Pc, o, r.	K, c.					
30	.997	.806	.894	.899	84.8	81.8	77.2	79.6	87.5	74.5	13.0	156.5	69.0	72.0	2.5	NNW.	NNW.	Calm.	120	78.8	76.5	76.0	77.1	.904	.857	.884	.882	75	81	94	83	.02	6	10	10	C, k, c.	Pc, o, d.	Pc, o.					
31	.918	.796	.880	.865	84.3	87.9	80.0	81.8	89.2	74.3	14.9	157.4	68.2	71.8	2.5	WNW.	WNW.	Calm.	125																								

Highest Atmospheric Pressure 30.004 Inches  
 Lowest Atmospheric Pressure 29.715 "  
 In the Shade, { Highest Temperature 91°2 Fah.  
 { Lowest Temperature 70°3 "  
 Greatest Fall of Rain in 24 hours 2.46 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H., 15 H., 21 H. and Minimum Temperature.

T. C. MUGLISTON,  
 Acting Principal Civil Medical Officer, S. S.



**METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF APRIL, 1890.**  
 1°17' N. Lat., 103°51' E. Long. Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch. es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																				
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NE.	SSE.	Calm.	78.3	79.2	78.0	78.5	.891	.917	.933	.914	73	76	91	80	...	4	2	4	K, b.	Cs, b.	C, b.	
2	.951	.847	.926	.908	84.0	84.9	80.0	80.6	87.2	73.6	13.6	159.2	72.0	70.5	3.1	SSW.	SSW.	Calm.	80.2	79.0	77.0	78.7	.981	.912	.889	.927	84	76	87	82	...	6	6	6	Ck, b.	C, c.	C, c.	
3	.972	.817	.897	.895	85.8	87.2	77.5	81.0	89.9	73.6	16.3	156.5	66.6	69.9	3.7	W.	W.	Calm.	79.5	75.5	75.4	76.8	.927	.726	.855	.836	78	56	90	75	...	6	2	2	C, Cs, b	C, b.	C, b.	
4	.961	.838	.899	.899	87.0	79.9	77.5	79.2	87.5	72.5	15.0	151.5	64.0	68.9	3.6	W.	WNW.	Calm.	79.0	75.5	75.0	76.5	.884	.837	.836	.852	69	85	89	81	...	4	8	2	Ck, b.	C, o.	C, b.	
5	.961	.863	.917	.914	85.2	77.5	75.0	77.4	85.2	72.0	16.2	157.5	69.3	67.9	4.1	NNW.	W.	Calm.	79.0	75.0	74.5	76.2	.909	.836	.844	.863	75	89	98	87	.19	2	10	10	C, b.	Pe, o, r.	Pe, o.	
6	.953	.841	.900	.898	84.8	84.9	73.0	79.9	89.0	71.9	17.1	153.5	64.5	69.9	2.0	E.	NW.	Calm.	79.3	78.9	76.5	78.2	.927	.897	.884	.903	77	76	93	82	.72	2	8	0	K, b.	Pk, o, r.	Pe, b.	
7	.969		.912	.940	85.0		77.0	78.5	83.3	73.5	14.3	136.0	47.7	70.8	2.7	NNE.	NW.		78.6		76.0	77.3	.893		.886	.889	74		95	85	2.11	5	...	2	5, c.	Pe, o, r.	K, b.	
8	.971	29.880	.937	.929	81.8	80.0	76.5	77.8	86.0	72.5	13.2	146.5	60.5	69.9	2.9	W.	NE.	Calm.	77.8	77.0	75.5	76.6	.899	.881	.890	.886	83	87	95	88	.78	6	10	10	C, c.	Pe, o, r.	Pe, o.	
9	.995	.867	.930	.930	84.0	77.8	76.8	77.9	85.5	72.5	13.0	153.5	68.0	70.5	2.0	NW.	W.	Calm.	80.0	76.3	76.0	77.4	.971	.888	.890	.916	83	93	96	90	.33	2	10	8	C, b.	Pe, o, d.	Pe, o.	
10	.967	.884	.940	.930	84.8	73.5	76.8	78.4	87.2	73.5	13.7	157.5	70.3	70.9	2.6	SSW.	NW.	Calm.	79.5	76.0	75.8	77.1	.939	.865	.880	.895	78	89	95	87	.06	2	10	2	K, b.	Pe, o, r.	Cs, b.	
11	.939	.862	.915	.905	84.0	76.8	75.8	77.4	86.2	72.5	13.7	136.7	50.5	70.9	1.6	W.	WSW.	Calm.	78.5	75.8	75.0	76.4	.901	.860	.860	.914	77	95	95	89	.73	4	10	8	K, b.	K, b.	Pe, o, d.	
12	.948	.813	.897	.886	84.8	86.8	76.0	80.7	87.8	75.3	12.5	153.5	65.7	71.9	3.4	W.	NE.	Calm.	78.8	79.8	75.5	78.0	.903	.924	.971	.899	76	72	95	81	.13	4	4	10	K, b.	Pe, o.	Pe, o, r.	
13	.969	.850	.917	.912	79.3	83.8	77.5	78.5	83.9	72.3	10.6	129.8	45.9	69.9	3.4	NSW.	SSW.	Calm.	77.0	77.0	76.5	76.8	.900	.838	.907	.879	90	73	95	86	.06	8	8	0	Pe, o, d.	C, b.	b.	
14	.912	.790	.899	.867	84.5	85.5	82.0	82.1	88.3	76.5	11.8	153.5	65.2	72.0	4.5	W.	SE.	SE.	78.5	79.0	77.8	78.4	.894	.904	.897	.898	76	74	82	77	...	4	4	0	Ck, b.	C, b.	b.	
15	.893	.788	.885	.855	83.8	82.5	79.0	80.1	87.2	74.9	12.3	149.5	62.3	72.3	2.6	NW.	SSW.	SE.	79.0	78.5	77.5	78.3	.930	.922	.924	.925	80	83	93	85	.41	8	8	6	Pe, K, o, r.	Pe, o.	Pe, c, d.	
16	.927	.824	.871	.874	78.8	80.0	76.0	76.8	85.8	72.3	13.5	143.5	57.7	68.9	3.4	NW.	NW.	Calm.	77.3	75.0	75.0	75.8	.918	.802	.856	.859	93	78	95	89	.02	10	10	0	Pe, o, d.	Pe, o.	b.	
17	.886	.766	.865	.839	86.0	86.5	77.3	80.9	88.5	73.9	14.6	143.5	55.0	71.5	2.4	NW.	WNW.	Calm.	78.0	77.5	77.0	77.6	.852	.822	.926	.867	68	65	98	77	.50	2	10	10	K, b.	Pe, o.	Pe, o, d.	
18	.876	.791	.870	.850	85.5	79.9	76.5	79.0	87.2	74.2	13.0	154.5	67.3	71.8	2.4	NW.	W.	Calm.	79.5	78.3	75.5	77.8	.927	.953	.871	.917	76	92	95	88	.13	2	10	8	K, b.	Pe, o, r.	Pe, o.	
19	.905	.816	.895	.872	82.0	88.3	78.8	80.7	88.7	73.5	15.2	154.5	69.8	71.0	2.5	SSE.	E.	Calm.	79.0	79.3	77.0	78.4	.952	.880	.906	.917	87	66	92	82	...	8	2	6	Pe, o, d.	K, b.	b.	
20	.911	.776	.873	.853	86.8	88.0	79.3	82.4	88.8	75.3	13.5	155.5	66.7	71.8	3.5	N.	NE.	Calm.	78.8	81.0	78.0	79.3	.876	.965	.945	.923	69	73	94	79	.05	2	2	2	K, c, b	Cs, b.	C, b.	
21	.854	.738	.842	.818	86.0	87.0	78.0	81.2	89.5	74.3	15.2	156.5	67.0	73.9	0.4	SSE.	S.	Calm.	79.5	78.5	76.0	78.0	.940	.861	.872	.891	74	67	93	78	...	2	6	0	K, b.	C, Cs, c.	b.	
22	.862	.766	.856	.828	80.5	84.5	79.5	79.4	89.0	74.2	14.8	154.3	75.3	70.8	3.4	E	SE.	Calm.	79.0	77.0	76.0	77.3	.972	.828	.865	.888	93	70	89	84	...	4	2	2	K, b.	K, c, b.	b.	
23	.879	.793	.858	.843	87.0	85.5	76.5	80.9	87.9	74.5	13.4	145.9	58.0	71.8	2.7	WNW.	SSE.	Calm.	80.0	78.9	75.5	78.1	.931	.891	.871	.898	72	74	95	80	...	2	8	2	K, b	C, o.	C, b.	
24	.860	.826	.852	.844	86.0	89.2	80.5	82.6	89.9	74.8	15.1	151.9	62.0	73.0	1.8	SSW.	SSW.	Calm.	80.5	78.5	78.5	79.2	.968	.832	.948	.916	78	60	91	76	.55	2	2	2	K, b.	C, b.	C, b.	
25	.878	.796	.868	.847	76.8	82.5	77.5	76.9	82.6	71.0	11.6	114.2	31.6	67.9	3.1	WSW.	WSW.	Calm.	75.8	77.0	76.5	76.4	.880	.855	.901	.879	95	77	95	89	.02	10	01	0	Pe, c, r.	Pe, o.	b.	
26	.866	.761	.841	.823	85.5	87.8	81.0	82.4	88.5	75.0	13.5	160.5	72.0	70.6	4.4	WNW.	WNW.	Calm.	79.8	79.0	78.0	78.9	.943	.875	.920	.913	77	66	87	77	...	4	2	2	K, b.	C, b.	K, b.	
27			.834	.834			80.0	76.9	88.2	73.8	14.4	159.5	71.3	70.0	3.8			Calm			76.5	76.5			.867	.867			85	85	...	...	...	0	...	...	b.	
28	.887	.735	.851	.824	81.2	90.5	81.0	82.1	90.8	75.5	15.1	159.5	68.7	71.0	4.5	NW.	NW.	Calm.	80.0	77.5	78.0	78.5	1.009	.768	.920	.894	95	54	89	79	...	2	2	2	K, b.	K, b.	Cs, b.	
29	.879	.729	.829	.812	83.8	88.0	78.0	81.3	89.2	75.3	13.9	153.5	64.3	71.8	3.5	WNW.	WNW.	Calm.	80.8	79.8	77.5	79.4	1.012	.908	.937	.952	87	69	98	85	.08	3	4	0	K, b.	K, c, b.	b.	
30	.872	.710	.839	.807	80.2	85.5	80.8	80.4	88.9	75.3	13.6	150.2	61.3	73.0	2.3	WNW.	WSW.	Calm.	78.8	80.5	76.5	78.6	.971	.975	.857	.934	94	80	81	85	1.10	8	6	6	Ck, o, d.	C, k, c.	Pe, c, r.	
Mean.	29.917	29.808	29.883	29.869	83.8	84.1	77.8	79.9	87.8	73.9	13.4	150.4	62.6	70.9	3.0				135	78.7	77.9	76.5	77.7	.926	.823	.889	.846	80	73	92	82	Total 7.97	4	5	3			

Highest Atmospheric Pressure 29.995 Inches  
 Lowest Atmospheric Pressure 29.710 "  
 In the Shade, { Highest Temperature 89.9° Fah.  
 Lowest Temperature 71.0 "  
 Greatest Fall of Rain in 24 hours 2.11 inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

T. C. MUGLISTON,  
 Acting Principal Civil Medical Officer, S. S.



# METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF MAY, 1890.

1°17' N. Lat., 103°51' E. Long.

Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER — REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		5 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																				
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	S.	NW.	Calm.	160	77.5	79.0	77.5	78.0	.924	.884	.915	.908	93	69	90	84	...	10	4	6	Pe, o.r.	C, b.	C, c.
2	29.917	29.735	29.876	29.843	79.0	87.0	79.8	80.3	87.2	75.2	12.0	141.0	53.8	73.5	1.7	W.	NW.	Calm.	135	79.5	78.9	79.0	79.1	.946	.839	.963	.916	80	60	90	77	.05	8	4	2	Pe, o.	Ck, b.	C, b.
3	.910	.720	.847	.826	84.3	89.9	81.3	82.7	90.5	75.2	15.3	155.5	65.0	72.3	2.9	NW.	WNW.	Calm.	141	78.0	79.9	78.0	78.6	.945	.932	.927	.935	94	75	89	86	...	10	6	10	Pe, o.d.	C, c.	Pe, o.
4	.852	.725	.809	.795	79.2	86.3	80.5	79.6	86.8	72.5	14.3	135.0	48.2	70.5	2.0	NNW.	WNW.	WNE.	141	81.0	79.9	74.0	78.3	.968	.918	.810	.899	73	70	86	76	...	4	6	8	K,Ck,b.	K,c,c.	Pe, o.
5	.863	.782	.860	.835	87.3	87.5	77.0	81.4	88.8	73.2	15.6	150.5	61.7	70.0	3.2	NW.	Calm.	Calm.	140	78.5	78.3	76.0	77.6	.933	.937	.886	.919	86	89	95	90	.16	4	10	8	C, b.	Pe, o, d.	C,Ck,o.
6	.897	.829	.850	.859	81.8	80.8	77.0	78.5	89.9	74.5	15.4	152.9	63.0	70.9	3.6	E.	W.	Calm.	130	79.0	79.2	78.8	79.0	.938	.864	.957	.919	83	61	90	79	.76	10	4	6	Pe, o, r.	C, b.	C, c.
7	.864	.737	.808	.803	83.0	89.0	81.0	82.1	90.2	75.3	14.9	149.5	59.3	72.5	2.8	WNW.	NW.	Calm.	140	77.0	78.5	78.0	77.8	.868	.953	.893	.905	81	92	98	90	.37	8	10	2	C, o.	Pe, o,d.	Pe, b.
8	.850	.766	.810	.809	81.5	80.2	73.5	78.9	87.5	75.6	11.9	150.5	63.0	71.9	3.7	NE.	NE.	Calm.	138	80.9	81.5	77.5	79.9	.976	.873	.934	.961	80	71	86	79	...	2	2	2	K, b, d.	K, b.	C, b.
9	.864	.763	.855	.827	85.9	89.0	80.8	82.8	89.2	75.3	13.9	149.7	60.5	71.5	3.8	SE.	SSW.	Calm.	135	81.2	79.0	79.0	79.7	.982	.871	.952	.935	78	66	87	77	...	4	2	2	K, b, b.	C, b.	K, b.
10	.933	.822	.877	.877	87.0	88.0	82.0	83.1	90.7	75.4	15.3	151.8	61.1	74.3	1.1	SE.	NW.	Calm.	138	82.0	78.0	77.5	79.2	1003	.906	.912	.940	74	83	89	82	...	4	10	8	Kc, b.	Pe, o.	Pe, o.
11	.896	.816	.890	.867	88.8	82.0	80.0	81.8	89.9	76.3	13.6	154.5	64.6	74.2	2.1	NW.	NW.	Calm.	130	79.0	78.8	75.0	77.6	.861	.971	.862	.898	64	95	97	85	.11	6	10	10	C, c.	Pe, o, d.	Pe, o.
12	.900	.858	.897	.855	83.9	79.8	75.8	79.5	88.9	73.6	15.3	153.5	64.6	70.5	3.1	NW.	NW.	Calm.	129	78.0	78.8	78.5	78.4	.838	.851	.950	.879	65	63	87	72	...	6	2	2	C, b.	C, b.	C, b.
13	.939	.796	.889	.875	87.0	88.8	81.2	84.5	89.0	76.9	12.1	150.9	61.9	72.5	4.4	SSW.	NW.	Calm.	132	80.5	78.5	76.0	78.3	.940	.942	.872	.918	71	89	91	84	.12	4	6	2	K, b.	Pe,C,c,d.	Pe, b.
14	.939	.807	.927	.891	84.0	81.0	78.0	80.1	88.5	73.5	15.0	150.5	62.0	70.7	2.8	WNW.	NW.	Calm.	135	80.8	80.0	77.0	79.3	.968	.930	.909	.936	76	73	93	81	.24	4	4	0	K, b.	Pe, k, b.	b.
15	.926	.820	.904	.883	86.8	86.9	78.5	81.3	88.9	72.9	16.0	153.5	64.6	70.8	2.1	NW.	W.	Calm.	180	75.8	79.0	76.5	77.1	.880	.929	.908	.906	95	80	98	91	...	10	10	0	Pe, o,d.	Pe, k,o.	b.
16	.636	.830	.888	.885	76.8	83.8	77.0	77.8	83.8	73.5	10.3	120.8	37.0	69.9	3.6	NW.	NW.	Calm.	135	78.3	81.0	77.5	78.9	.861	.937	.920	.903	69	66	92	76	...	2	2	2	K, b.	K, b.	C, b.
17	.883	.781	.862	.84	86.4	90.0	79.3	82.6	89.3	74.5	14.8	149.5	60.2	73.5	1.0	W.	NW.	Calm.	133	78.5	79.5	77.0	78.3	.925	.893	.916	.911	84	67	95	82	...	10	2	0	Pe, o.	Ck, b.	b.
18	.873	.767	.848	.829	86.3	88.0	78.0	80.5	88.0	73.5	14.5	147.0	59.0	70.8	2.7	WSW.	WSW.	Calm.	133	79.5	79.8	79.0	79.4	.910	.906	.942	.919	72	69	84	75	...	4	2	0	K, b.	K, b.	b.
19	.877	.764	.842	.828	86.8	88.2	82.8	83.6	90.4	76.5	13.9	158.7	68.3	72.0	4.5	W.	WNW.	Calm.	132	76.8	79.0	77.0	77.6	.908	.925	.909	.914	94	79	93	89	.04	10	10	2	Pe,o,d	Ck, o.	Pe, b.
20	.893	.812	.884	.863	78.0	84.0	78.5	78.8	86.3	74.5	11.8	152.5	66.2	71.8	2.7	WSW.	WSW.	Calm.	129	78.0	79.5	78.0	78.5	.842	.942	.940	.908	67	80	93	80	...	6	2	0	C, c	K, b.	b.
21	.895	.822	.872	.863	86.5	84.4	79.5	81.4	88.0	74.6	13.4	151.0	63.0	71.0	3.6	NW.	NW.	Calm.	131	80.5	77.5	77.0	78.3	.945	.877	.902	.908	73	79	91	81	...	2	10	0	K, b.	Pe, o, d.	b.
22	.865	.798	.863	.842	87.8	82.5	79.0	81.1	87.9	75.2	12.7	149.9	62.0	71.5	2.3	NW.	NW.	Calm.	130	79.0	80.0	77.0	78.7	.901	.942	.907	.917	74	76	92	81	.44	4	2	0	K, b.	K, b.	b.
23	.898	.771	.859	.843	85.8	86.2	78.8	80.8	90.2	72.3	17.9	153.5	63.3	68.2	4.1	NW.	Calm.	Calm.	130	80.5	79.0	78.0	79.2	.921	.898	.933	.914	70	72	91	78	...	2	2	2	K, b.	K, b.	C, b.
24	.901	.846	.867	.871	88.3	86.0	80.0	81.8	88.7	72.8	15.9	154.0	66.2	69.8	3.0	NW.	W.	Calm.	129	80.8	80.6	77.8	79.7	.968	.895	.926	.929	76	65	91	77	...	2	4	0	K, b.	Ke, b.	b.
25	.871	.778	.860	.836	86.8	90.2	79.8	82.8	90.3	74.5	15.8	159.5	69.2	70.8	3.7	WNW.	NW.	SSE.	128	78.0	79.0	77.0	78.0	.876	.922	.887	.895	75	78	86	79	...	10	8	2	Pe, o.	K, Pe, o.	C b.
26	.902	.809	.870	.860	84.3	84.4	80.3	80.9	85.9	74.5	11.4	151.5	65.6	70.0	4.5	NW.	W.	Calm.	129	79.0	76.5	77.0	77.5	.925	.833	.875	.878	79	75	83	79	...	2	10	0	K, b.	Pe, o.	b.
27	.895	.850	.887	.877	84.0	82.5	81.0	80.6	87.2	75.3	11.9	150.0	62.8	72.8	2.5	W.	Calm.	Calm.	136	78.0	77.0	76.5	77.2	.883	.902	.894	.893	76	91	93	87	.23	16	10	2	Pe, o.	Pe, o, d.	C, b.
28	.913	.875	.909	.899	83.8	79.0	78.0	78.5	84.6	73.0	11.0	130.2	56.2	70.0	3.0	NW.	WSW.	Calm.	131	80.2	78.0	77.0	78.4	.935	.910	.895	.830	86	84	89	86	.08	5	10	6	Ck, b.	Pe, o.	Pe, c.
29	.901	.806	.888	.865	83.5	81.8	79.5	79.9	86.2	74.7	11.5	145.9	59.7	71.8	2.9	NW.	W.	Calm.	129	79.0	80.0	78.0	79.0	.918	.931	.947	.932	77	72	95	85	...	4	2	2	K, b.	K, b.	K, c.
30	.925	.808	.893	.875	84.5	87.0	79.0	81.1	87.4	73.8	13.6	153.5	66.1	69.5	4.3	NE.	Calm.	Calm.	135	79.8	76.0	75.5	77.1	.912	.858	.864	.878	72	87	93								

Highest Atmospheric Pressure 29.939 Inches  
 Lowest Atmospheric Pressure 29.720 "  
 In the Shade, { Highest Temperature 90.97 Fah.  
 { Lowest Temperature 72.3 "  
 Greatest Fall of Rain in 24 hours 0.76 inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

T. C. MUGLISON,  
Acting Principal Civil Medical Officer, S. S.



**METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF JUNE, 1890.**  
 10°17' N. Lat., 103°15' E. Long.  
 Height of Bar Cistern above Sea Level, 10 ft.

Height of Bar Cistern above Sea Level, 10 ft.																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
DATE.	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED V APOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																																																		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			Velo- city.  Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.

Highest Atmospheric Pressure 29.951 Inches.  
 Lowest Atmospheric Pressure 29.744 "  
 In the shade, { Highest Temperature 89.02 Fah.  
 { Lowest Temperature 70.05 "  
 Greatest Fall of Rain in 24 hours 1.35 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

T. C. MUGLISTON,  
 Acting Principal Civil Medical Officer, S.S.



METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF JULY, 1890.  
 1° 17' N. Lat., 103° 51' E. Long. Height of Bar Cistern above Sea Level, 10 ft.

DATE	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Velo- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
																9 H.	15 H.	21 H.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.				°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				</

Highest Atmospheric Pressure 29.972 Inches.  
 Lowest Atmospheric Pressure 29.770 "  
 In the shade, { Highest Temperature 88.08 Fah.  
 { Lowest Temperature 67.05 "  
 Greatest Fall of Rain in 24 hours 4.37 Inche

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

T. C. MUGLISTON,  
 Acting Principal Civil Medical Officer.



# METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF AUGUST, 1890.

1° 17' N. Lat., 103° 51' E. Long.

Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch. es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																				
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	W.	W.	SW.	128	77.8	79.8	77.5	78.4	.974	.923	.890	.929	86	72	83	80	...	2	2	2	C, b.	K, b.	K, b.
2	29.908	29.842	29.880	29.877	83.0	86.8	81.5	80.8	87.2	72.0	15.2	144.5	57.3	68.5	3.5	NW.	W.	Calm.	129	78.5	78.0	75.0	77.2	.948	.881	.856	.895	91	76	95	87	...	8	8	8	Ck, o.	C, Ck, o.	Ck, o.
3	.902	.847	.901	.883	80.5	83.8	76.0	78.7	84.0	74.3	9.7	135.0	51.0	72.0	2.3	SW.	NW.	Calm.	128	76.3	74.3	73.5	74.7	.827	.829	.820	.825	75	93	98	83	.12	8	10	10	Ck, c.	Pc, o, d.	Pc, o.
4	.936	.871	.902	.903	82.3	75.8	74.0	76.2	83.2	72.7	10.5	120.5	37.3	71.8	0.9	WNW.	WNW.	Calm.	131	77.8	78.0	77.0	77.6	.892	.866	.907	.888	81	72	92	82	...	4	4	8	K, b.	C, Cs.	Pc, o.
5	.938	.847	.903	.896	82.3	85.0	78.8	80.5	85.3	76.0	9.3	144.5	59.2	72.2	3.8	SW.	W.	SW.	123	78.3	77.5	78.0	77.9	.906	.874	.924	.901	80	78	88	79	...	6	10	6	C, c.	Pc, o.	C, c.
6	.934	.855	.927	.905	83.0	82.8	80.8	79.9	84.3	72.8	11.5	129.0	44.7	68.2	4.6	NW.	SW.	SW.	129	78.0	78.3	78.0	78.1	.865	.867	.910	.882	73	70	84	76	...	10	6	6	Pc, o.	Ck, c.	C, c.
7	.939	.854	.905	.899	84.8	85.8	81.8	28.3	86.2	77.8	8.4	147.5	61.3	72.9	4.9	NW.	SW.	SW.	129	78.3	78.5	76.8	77.9	.878	.886	.858	.874	73	74	81	76	.05	4	4	8	Ck, b.	Ck, b.	Pc, o.
8	.937	.824	.846	.869	84.8	85.2	81.5	81.5	87.8	74.3	13.5	154.0	66.2	73.2	1.1	SW.	SW.	Calm.	128	79.5	77.2	77.5	78.1	.938	.887	.883	.874	78	62	81	74	...	6	3	6	K, c.	C, b.	C, c.
9	.943	.827	.935	.902	84.8	86.8	82.0	82.7	86.5	77.2	9.3	146.0	59.5	73.5	3.7	NW.	SW.	SW.	160	79.0	74.6	75.0	76.2	.932	.902	.849	.894	81	82	93	85	.13	8	9	8	Pc, o.	Pc, o, r.	Pk, o.
10	.965	.819	.916	.900	83.5	78.8	76.5	77.4	83.5	70.5	13.0	105.0	21.5	69.5	1.0	NW.	SW.	SW.	130	79.0	74.6	75.0	76.2	.932	.902	.849	.894	81	82	93	85	...	4	2	0	Kc, b.	C, b.	b.
11	.912	.828	.872	.870	84.0	85.5	77.0	79.8	86.9	72.5	14.4	149.5	62.6	68.9	3.6	NW.	SW.	SW.	130	78.5	77.0	75.0	76.8	.902	.814	.843	.853	77	66	91	78	...	4	6	2	K, b.	Ck, b.	C, b.
12	.913	.838	.869	.873	83.5	84.5	81.8	80.8	87.5	73.2	14.3	153.0	65.5	71.8	1.4	ENE.	S.	SW.	130	78.5	77.8	76.8	77.7	.909	.861	.855	.875	79	73	79	77	...	4	6	0	K, b.	C, b.	b.
13	.914	.814	.904	.874	83.0	84.8	79.5	79.9	81.6	72.5	12.1	151.0	66.4	69.0	3.5	W.	W.	Calm.	129	77.5	78.2	76.0	77.2	.870	.878	.852	.867	77	73	85	78	...	4	6	0	K, b.	C, b.	b.
14	.879	.819	.847	.848	84.0	86.2	81.0	82.1	87.2	77.2	10.0	156.0	68.8	72.8	4.4	SW.	W.	SW.	130	77.5	76.4	78.5	77.5	.857	.783	.943	.861	73	62	89	75	...	4	8	0	Kc, b.	Ck, o.	Pc, b.
15	.886	.790	.879	.852	84.5	84.8	75.0	79.7	87.8	74.5	13.3	155.0	67.2	70.8	3.7	SE.	SW.	SW.	129	78.8	78.5	74.0	77.1	.908	.891	.828	.872	76	74	95	82	.01	2	6	0	K, b.	Pc, o, d.	b.
16	.899	.828	.890	.872	83.8	83.8	78.5	80.1	87.2	74.5	12.9	143.0	55.8	72.5	1.8	W.	SW.	SW.	130	77.3	76.5	75.5	76.4	.864	.816	.844	.841	77	71	87	78	.04	4	10	4	Kc, b.	Pc, o.	C, b.
17	.981	.786	.928	.898	77.2	75.5	74.0	74.8	82.8	72.5	10.3	152.0	69.2	71.4	1.1	NW.	NW.	Calm.	141	75.8	73.3	73.5	74.4	.871	.815	.821	.836	94	92	98	95	.18	8	10	10	Pc, o, d.	Ck, o.	Pc, o.
18	.955	.868	.954	.926	81.2	76.8	75.5	76.4	81.8	71.8	10.0	105.8	24.0	70.2	1.6	W.	SE.	Calm.	135	78.8	71.0	74.5	75.8	.951	.804	.852	.869	90	87	95	91	.29	8	10	8	Pc, o, d.	Pc, o, d.	Pc, c.
19	.982	.910	.920	.901	76.8	84.4	76.8	77.7	84.5	72.2	12.3	154.0	69.5	69.4	2.8	Calm.	W.	Calm.	130	75.5	76.8	75.3	75.9	.862	.826	.858	.849	94	70	93	86	.12	10	8	10	Pc, o, r.	C, o.	Pc, o.
20	.946	.847	.932	.908	75.5	80.8	76.8	76.4	80.9	72.2	8.7	141.0	60.1	70.5	1.7	Calm.	SW.	Calm.	131	74.4	75.8	75.0	75.1	.839	.826	.846	.837	94	78	92	88	.10	10	9	10	Pc, o.	Pc, o.	Pc, o.
21	.925	.862	.923	.872	80.2	76.8	75.0	77.7	81.5	71.0	10.5	104.0	22.5	69.8	1.2	NW.	W.	Calm.	191	76.4	75.0	74.0	75.1	.861	.846	.828	.845	85	92	95	91	2.74	8	10	10	C, o.	Pc, o, r.	Pc, o, r.
22	.956	.908	.942	.935	79.9	80.2	75.5	76.9	83.5	72.3	11.2	142.0	58.5	71.2	1.1	W.	W.	Calm.	136	76.8	75.8	74.5	75.7	.882	.835	.844	.854	87	81	95	88	.07	8	10	8	Pc, o.	Pc, o.	Pc, o.
23	.965	.814	.899	.893	84.0	84.4	78.0	78.9	84.5	72.2	12.3	150.0	65.5	70.0	2.2	W.	W.	Calm.	137	77.3	76.5	76.0	76.8	.888	.805	.872	.855	84	68	91	81	.03	6	8	8	Pc, o, r.	Pc, o.	C, o.
24	.947	.866	.921	.911	79.0	79.8	75.2	76.1	84.2	70.5	13.7	102.0	17.8	69.4	1.1	SSW.	Calm.	W.	137	75.5	75.5	74.5	75.2	.857	.829	.847	.838	85	81	97	88	.47	10	10	4	Pc, o, r.	Pc, o, r.	Pc, b.
25	.939	.863	.914	.905	74.5	81.8	76.5	75.9	81.8	70.6	11.2	142.0	60.2	69.7	0.9	NW.	W.	Calm.	134	73.8	76.2	75.5	75.2	.826	.820	.871	.842	97	76	95	89	.10	10	5	6	Pc, o, r.	Ck, b.	Pc, c.
26	.930	.858	.897	.898	84.8	83.0	77.8	78.4	82.5	71.0	11.8	140.2	57.5	70.0	1.0	SW.	SW.	Calm.	144	77.8	76.8	76.0	76.4	.899	.830	.876	.868	83	74	92	84	.71	10	8	10	Pc, o.	Pc, o.	Ck, b.
27	.951	.873	.922	.915	78.8	77.5	75.3	75.9	82.8	71.8	11.0	142.0	59.2	70.8	1.0	SW.	SE.	Calm.	140	75.0	74.8	74.0	74.6	.819	.828	.825	.824	83	87	94	88	.32	10	10	10	Pc, o.	Pc, o, r.	Pc, o, d.
28	.945	.872	.879	.899	79.0	76.8	75.0	75.6	80.0	71.5	8.5	128.0	48.6	69.9	1.6	NW.	Calm.	Calm.	137	76.5	75.0	74.5	75.3	.851	.846	.849	.849	89	92	98	93	.31	6	10	4	C, c.	Pc, o.	K, Ck, b.
29	.960	.815	.926	.900	84.2	83.4	79.2	79.2	85.0	72.0	13.0	147.0	62.0	69.8	2.2	WSW.	W.	Calm.	132	78.0	77.8	76.2	77.3	.904	.879	.864	.882	81	76	87	81	...	4	5	6	K, Pc, b.	Kc, b.	Cc, b.
30	.963	.914	.966	.948	84.6	84.4	75.2	79.0	82.5	72.5	10.0	140.0	57.5	69.0	2.5	SW.	W.	Calm.	148	78.5	79.5	74.5																

Highest Atmospheric Pressure 30.095 Inches  
 Lowest Atmospheric Pressure 29.786 "  
 In the Shade { Highest Temperature 87.8° Fah.  
 Lowest Temperature 70.5° "  
 Greatest Fall of Rain in 24 hours 2.74 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

MAX. F. SIMON,  
 Acting Principal Civil Medical Officer.



METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF SEPTEMBER, 1890.  
 1° 17' N. Lat., 103° 51' E. Long. Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.								
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.		21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																								
1	29.922	29.857	29.911	29.893	81.5	80.8	78.0	77.9	85.2	71.5	13.7	138.0	52.8	70.0	1.5	NW.	W.	SW.	130	77.5	76.6	76.0	76.0	.890	.862	.872	.856	83	81	91	85	.02	8	10	10	C, o.	Pc, o.	Pc, o.				
2	.903	.848	.891	.881	80.0	84.2	76.0	78.0	83.5	71.8	11.7	129.0	45.5	70.8	1.0	SSW.	W.	Calm.	140	79.0	78.8	75.0	77.6	.979	.916	.856	.917	96	79	95	90	1.17	2	5	4	K, b.	Ck, b.	C, b.				
3	.977	.867	.916	.920	75.8	79.3	75.8	75.6	80.2	71.5	8.7	122.5	42.3	70.7	0.8	WSW.	W.	Calm.	131	74.8	75.3	75.0	75.0	.850	.825	.860	.845	95	82	97	91	.02	10	10	8	Pc, o, r.	Pc, o, d.	Pc, o.				
4	.924	.804	.862	.863	82.5	85.8	79.5	80.5	86.2	74.0	12.2	149.8	63.6	71.5	2.5	WNW.	WSW.	SSW.	135	78.5	77.8	76.5	77.6	.922	.845	.873	.880	83	68	87	79	...	5	2	0	K, b.	K, b.	b.				
5	.885	.772	.844	.834	83.5	87.5	80.0	80.8	87.6	72.0	15.6	150.2	62.6	70.0	2.0	W.	W.	SSW.	130	78.0	79.5	76.0	77.8	.886	.910	.872	.889	77	69	91	79	.14	4	4	8	C, b.	K, c, b.	C, o.				
6	.843	.741	.778	.787	83.8	87.0	77.0	80.2	87.2	72.8	14.4	147.5	60.3	71.0	1.8	WSW.	WNW.	Calm.	136	77.8	78.5	76.0	77.4	.872	.861	.886	.873	75	67	95	79	.12	5	2	10	K, b, d.	Ck, b.	Pc, o.				
7	.867	.761	.825	.814	81.8	86.8	82.0	81.0	87.8	73.5	14.3	152.5	64.7	70.0	3.5	S.	WSW.	SSW.	134	77.0	79.0	78.0	78.0	.865	.888	.906	.853	80	69	83	74	2.91	6	2	4	C, o, d.	Ck, b.	Pc, b.				
8	.855	.776	.828	.819	79.0	82.8	77.8	78.4	82.8	73.8	9.0	107.8	25.0	72.8	1.0	SW.	NW.	Calm.	136	76.8	77.2	76.0	77.7	.892	.856	.876	.875	90	77	92	86	...	10	10	10	Pc, o, r.	Pc, o.	Pc, o.				
9	.867	.831	.852	.848	85.0	86.5	80.0	81.7	87.5	75.2	12.3	154.0	66.5	73.2	2.0	WSW.	W.	Calm.	132	79.8	78.8	77.0	78.5	.835	.881	.889	.868	78	69	87	78	.20	4	4	6	K, b.	K, b.	Pc, c.				
10	.902	.847	.872	.874	75.5	80.4	76.5	76.4	81.4	73.0	8.4	125.0	43.6	68.9	5.1	WSW.	NW.	Calm.	134	74.5	75.8	75.0	75.1	.842	.802	.849	.831	95	79	98	91	.01	10	10	10	Pc, c, r.	Pc, o.	Pc, o.				
11	.919	.823	.887	.876	84.2	86.6	80.3	81.1	87.0	73.2	13.8	150.0	63.0	70.8	2.4	WSW.	S.	Calm.	133	79.9	77.8	78.0	78.6	.966	.836	.930	.911	82	65	90	79	.80	2	6	6	K, b.	K, c.	b.				
12	.945	.767	.895	.870	74.5	82.2	74.0	86.0	82.5	73.4	9.1	102.0	19.5	71.5	1.9	WNW.	Calm.	Calm.	136	73.0	76.8	73.5	74.4	.793	.849	.823	.822	93	77	98	89	.35	10	10	10	Pc, c, r.	Pc, o, r.	Pc, o.				
13	.945	.767	.895	.870	74.5	82.2	74.0	86.0	82.5	73.4	9.1	102.0	19.5	71.5	1.9	WNW.	Calm.	Calm.	136	73.0	76.8	73.5	74.4	.793	.849	.823	.822	93	77	98	89	.35	10	10	10	Pc, c, r.	Pc, o, r.	Pc, o.				
13	.987	.883	.914	.928	77.5	80.8	76.5	77.0	81.8	73.5	8.3	115.5	33.7	71.9	1.6	W.	SSW.	Calm.	130	74.0	76.3	75.0	75.1	.794	.847	.949	.830	84	80	93	86	...	10	10	8	Pc, o, d.	Pc, o, d.	Pc, o.				
14	.951	.753	.926	.877	83.5	87.2	79.5	80.9	87.5	73.5	14.0	151.0	63.5	70.8	2.7	NW.	W.	Calm.	130	78.5	78.0	77.5	78.0	.909	.836	.924	.889	79	65	91	78	.26	6	5	2	C, c.	C, b.	C, b.				
15	.941	.813	.903	.886	79.0	85.0	78.0	79.5	87.2	75.9	11.3	145.0	57.8	73.5	2.4	WNW.	W.	Calm.	134	76.0	76.0	76.0	76.0	.858	.777	.827	.821	87	64	91	81	...	10	10	10	Pc, o, r.	Pc, r, o.	Pc, r, o.				
16	.946	.844	.912	.901	82.8	85.8	77.0	79.9	85.8	73.8	12.0	120.0	34.2	72.0	1.8	W.	WNW.	Calm.	130	77.5	77.8	76.5	77.3	.872	.845	.908	.875	77	68	98	81	.02	8	6	8	K, c, o.	C, c.	Pc, o.				
17	.978	.840	.909	.909	78.0	79.4	76.8	85.0	73.0	12.0	108.0	20.0	70.8	2.2	W.	Calm	Calm	128	74.0	74.2	74.1	74.1	.787	.776	...	.782	82	78	...	80	.01	10	10	10	Pc, o, d.	Pc, o.	b.					
18	.953	.881	.911	.915	83.5	81.8	79.0	79.6	85.0	74.2	10.8	130.5	45.5	72.8	1.4	W.	WSW.	Calm.	130	79.0	76.3	76.0	77.1	.932	.834	.858	.875	81	77	87	82	.02	6	10	6	C, c.	Pc, o, d.	C, c.				
19	.956	.884	.930	.910	83.0	85.2	78.4	80.2	85.4	74.3	11.1	140.0	54.6	72.5	1.8	SW.	NW.	Calm.	129	78.5	79.5	76.4	78.1	.914	.930	.884	.909	81	76	91	83	.02	4	10	10	Pc, k, b	P, k, o.	Pc, o, r.				
20	.989	.863	.922	.925	74.5	78.8	75.5	75.4	80.5	72.8	7.7	92.5	14.0	70.8	2.0	W.	SWS.	Calm.	137	72.2	75.5	74.0	73.9	.759	.841	.821	.807	90	85	93	89	.11	10	10	10	Pc, o, d.	Pc, o, d.	Pc, o.				
21	.912	.798	.910	.840	84.2	84.8	76.7	79.5	86.9	72.3	14.6	155.5	68.6	69.9	2.4	WNW.	WNW.	Calm.	129	78.0	78.3	75.7	77.3	.877	.881	.878	.879	75	74	95	81	...	6	4	2	K, Pc, b.	K, c, b.	K, b.				
22	.920	.766	.918	.868	80.0	86.5	76.5	79.4	86.7	74.5	12.2	151.0	64.3	72.5	2.0	NW.	NW.	NW.	129	76.8	79.0	75.5	77.1	.881	.891	.871	.881	86	70	95	84	.40	8	6	4	Pc, o.	Pc, c.	C, b.				
23	.979	.816	.939	.911	74.0	80.8	74.5	75.5	80.9	72.5	8.4	124.0	43.1	70.8	1.7	NW.	W.	Calm.	140	73.5	75.5	74.0	74.3	.821	.804	.834	.819	98	77	98	88	...	10	9	10	P, o, r, lt.	Pc, o.	Pc, o.				
24	.948	.853	.920	.907	81.5	83.0	78.5	79.1	87.5	73.2	14.3	143.5	56.0	71.2	2.0	SSW.	SSW.	Calm.	136	78.5	77.8	76.8	77.7	.935	.882	.898	.905	87	78	92	86	.02	8	19	8	Pc, o, d.	Pc, o.	Pc, o.				
25	.939	.785	.893	.872	84.0	86.4	80.5	81.4	88.5	74.5	14.0	152.0	63.5	72.5	2.0	W.	SSW.	SSW.	130	78.8	79.8	77.0	78.2	.914	.928	.882	.908	78	73	85	79	.01	8	8	6	Pc, o.	Pc, o.	C, c.				
26	.980	.832	.915	.907	85.2	84.2	77.8	79.9	85.8	72.5	13.3	146.0	60.2	70.5	2.0	W.	W.	WSW.	130	79.0	77.2	76.0	77.4	.908	.840	.877	.875	75	72	92	79	.52	4	6	6	K, b.	Ck, c.	Ck, c.				
27	.972	.817	.920	.903	75.3	83.8	76.5	76.9	84.0	71.8	12.2	101.0	17.0	70.5	1.3	NW.	NW.	Calm.	131	74.0	77.5	75.5	75.7	.825	.859	.871	.852	94	74	95	88	.30	10	10	6	Pc, o, r.	Pc, o.	Pc, c.				
28	.941	.819	.905	.888	80.8	86.4	78.0	79.0	86.5	70.9	15.6	148.5	62.0	69.9	1.0	WSW.	SW.	Calm.	138	77.5	77.2	76.5	77.1	.901	.810	.894	.868	86	64	93	81	.63	6	4	8	Ck, b.	C, b.	Ck, o.				
29	30.001	.786	.920	.902	78.2	85.0	76.5	77.9	85.2	71.8	13.4	131.0	45.8	70.0	1.8	NW.	W.	Calm.	135	76.8	79.5	75.5	77.3	.904	.934	.																

Highest Atmospheric Pressure 30.001 Inches  
 Lowest Atmospheric Pressure 29.741 "  
 In the Shade { Highest Temperature 88.5° Fah.  
 { Lowest Temperature 79.9° "  
 Greatest Fall of Rain in 24 hours 2.91 Inche

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

MAX. F. SIMON,  
 Acting Principal Civil Medical Officer.



**METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF OCTOBER, 1890.**  
 1° 17' N. Lat., 103° 51' E. Long. Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER—REDUCE TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.					
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.		Velo- city.	Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.		21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.																						
1	29.953	29.868	29.899	29.907	80.8	86.2	78.0	79.5	88.0	73.0	15.0	151.5	63.5	70.0	3.0	NW.	NW.	Calm.	128	78.3	78.5	76.0	77.6	.936	.872	.872	.893	89	69	91	83	...	6	5	2	C. c.	C. b.	Ck. b.	
2	.971	.801	.936	.903	83.0	87.8	76.3	80.2	88.6	73.5	15.1	152.0	63.4	71.8	1.7	WSW	W.	Calm.	130	77.5	78.8	74.5	76.9	.870	.865	.852	.862	77	66	92	79	.10	2	4	2	K. b.	K. b.	K. b.	
3	.940	.836	.894	.890	86.0	87.5	80.0	82.0	88.5	74.5	14.0	153.9	65.4	73.3	1.2	NW.	NW.	Calm.	129	81.0	78.8	78.0	79.3	.992	.869	.933	.931	80	66	91	77	.33	2	3	2	K, b, d.	C. b.	C. b.	
4	.898	.804	.872	.858	84.8	87.5	76.8	80.4	88.2	72.3	15.9	147.8	59.6	69.0	3.3	NW.	W.	Calm.	150	78.3	77.5	75.8	77.2	.881	.810	.830	.857	74	62	95	77	1.10	10	4	8	Pc, or lt.	Ck. b.	Pc. o.	
5	.934	.802	.850	.862	76.5	83.0	80.0	78.0	83.8	72.5	11.3	136.5	52.7	71.3	1.2	NW.	WSW.	NNE.	150	75.5	78.8	77.3	77.2	.783	.968	.928	.893	69	94	97	87	...	10	8	2	Pc, or t.	Ck, C, o.	Pc. b.	
6	.913	.809	.890	.873	84.0	81.0	81.5	80.3	88.5	74.5	14.0	149.5	61.0	72.0	2.5	WNW.	W.	Calm.	130	77.0	79.3	78.5	78.3	.875	.973	.953	.934	83	90	92	88	...	2	3	2	K. b.	Ck. b.	Pc. b.	
7	.904	.827	.864	.865	82.5	85.0	75.5	79.9	86.0	73.5	12.5	145.0	59.0	70.0	3.5	WNW.	NW.	Calm.	131	76.5	77.5	76.0	76.7	.833	.844	.865	.847	75	70	89	78	.56	8	8	6	Ck, o, r.	C. o.	Pc, C, r.	
8	.884	.817	.877	.859	82.0	85.0	76.0	79.4	85.6	74.5	11.1	132.0	46.4	70.0	4.5	W.	S.	SSW.	133	76.0	77.8	75.0	76.3	.818	.854	.856	.843	75	71	95	80	.27	8	10	10	C. o.	C. o.	Pc. o, r.	
9	.895	.831	.875	.874	81.0	86.5	78.0	80.2	86.8	75.2	11.6	150.0	63.2	74.0	1.2	W.	W.	Calm.	137	77.0	78.0	76.8	77.3	.877	.845	.908	.877	83	67	94	81	...	8	8	10	Pc. o.	C. o.	Pc. o.	
10	.913	.841	.900	.885	83.8	79.0	76.8	78.2	84.8	73.8	11.0	109.0	25.2	72.5	1.3	NW.	NNW.	Calm.	132	79.0	76.5	75.3	76.9	.939	.889	.865	.898	80	89	95	88	.92	8	10	0	Pc, ko, r.	Pc. o.	b.	
11	.950	.760	.915	.875	82.5	88.2	76.0	79.8	88.5	72.5	16.0	149.5	61.0	70.5	2.0	NW.	W.	NW.	136	77.0	79.0	74.0	76.7	.855	.868	.814	.846	77	64	91	77	...	6	5	10	C. c.	Ck. b.	Pc. o, d.	
12	.980	.874	.956	.937	78.5	89.0	76.5	77.1	80.2	73.5	6.7	127.5	47.3	72.5	1.0	W.	W.	Calm.	130	75.0	75.2	74.3	75.0	.822	.812	.841	.825	84	79	92	85	.10	10	10	10	Pc, o, d.	Pc. o, d.	Pc. o.	
13	.948	.831	.894	.891	82.8	86.2	78.3	79.9	87.2	72.5	14.7	149.0	61.8	70.0	2.5	NW.	NW.	Calm.	131	76.8	78.5	77.0	77.4	.842	.848	.912	.867	75	69	94	79	...	8	5	2	C, Ck, o.	C. b.	Cs. b.	
14	.913	.834	.883	.877	84.0	86.0	78.8	80.4	88.8	72.8	16.0	151.5	62.7	71.8	1.0	NW.	Calm.	Calm.	132	78.5	79.5	75.5	77.8	.902	.920	.810	.887	77	74	85	79	.09	2	2	10	Ck. b.	Kc. b.	Pc, o, r.	
15	.926	.778	.809	.838	79.5	85.6	78.0	79.7	87.0	75.5	11.5	154.5	67.5	71.8	3.7	WNW.	W.	Calm.	133	75.0	77.2	75.5	75.9	.809	.819	.851	.826	80	67	89	79	4.0	8	4	10	Ck. o.	Ck. b.	Pc. o.	
16	.963	.870	.870	.901	81.0	84.5	78.0	79.3	86.8	73.5	13.3	150.5	63.7	72.5	1.0	WNW.	WNW.	Calm.	135	76.5	78.8	76.5	77.3	.853	.911	.894	.865	80	76	93	83	...	6	8	6	C, Cs, c.	Ck. o.	Pc, Cs.	
17	.967	.871	.908	.915	84.0	85.5	78.2	79.7	87.7	72.0	15.7	147.5	59.8	71.0	1.0	WNW.	WSW.	Calm.	133	76.0	78.0	77.5	77.2	.791	.859	.941	.864	68	70	98	79	.42	8	8	8	C. o.	C. o.	C. o.	
18	.935	.836	.923	.898	75.8	82.8	75.0	76.6	82.9	72.8	10.1	120.5	37.6	71.0	1.8	NW.	W.	Calm.	132	74.0	77.3	71.5	75.4	.817	.886	.850	.851	92	79	98	89	.02	10	10	8	Pc, o, r, l.	C. o.	Pc. o.	
19	.950	.841	.922	.904	78.8	83.5	77.0	78.4	84.0	74.5	9.5	135.0	51.0	70.2	4.3	WNW.	SSW.	Calm.	135	76.0	78.0	75.5	76.5	.862	.886	.864	.871	90	77	93	87	...	8	2	2	C, Pc, od	K. b.	Cs. b.	
20	.975	.844	.970	.929	84.0	81.0	76.5	78.4	87.2	72.0	15.2	157.0	69.8	70.5	1.5	NNW.	W.	Calm.	131	78.5	77.8	75.5	77.3	.902	.944	.871	.906	77	86	95	86	1.10	8	10	10	Ck. o.	Pc, o, r.	Pc, c, r, l, t.	
21	30 019	.819	.957	.932	78.8	82.0	77.3	77.8	82.5	73.0	9.5	151.5	69.0	72.5	0.5	NW.	NW.	Calm.	130	75.8	75.2	76.3	75.8	.852	.785	.895	.844	87	72	95	85	...	10	10	6	Pc, o, d.	Pc. o.	Pc. c.	
22	29 968	.831	.942	.914	82.8	81.8	75.5	77.7	85.5	70.8	14.7	126.0	40.5	61.8	3.0	WNW.	Calm.	Calm.	131	77.3	77.4	74.5	76.4	.864	.844	.942	.850	77	82	95	85	.16	6	10	6	Kc, c.	Pc. o.	Pc, o, r.	
23	.968	.852	.920	.913	79.5	84.2	76.5	78.4	85.8	73.3	12.5	144.5	58.7	70.0	3.3	NW.	WSW.	Calm.	129	75.5	78.2	75.0	76.2	.832	.885	.849	.846	82	75	93	84	...	10	8	8	Pc. o.	Ck. o.	Pc. o.	
24	.951	.834	.930	.905	84.8	84.5	78.0	80.1	87.8	73.0	14.8	151.0	63.2	71.0	2.0	WNW.	W.	Calm.	129	77.0	77.4	75.3	76.6	.825	.846	.843	.838	70	72	89	77	.10	2	9	2	Kc. b.	Pc. o.	Cs. b.	
25	.994	.843	.918	.915	75.5	81.0	76.7	76.3	81.2	72.0	9.2	138.5	57.3	70.0	2.0	WNW.	WNW.	Calm.	130	74.0	78.0	75.7	75.9	.821	.920	.877	.873	98	87	95	93	.01	10	10	6	Pc, o, d.	Pc. o.	Pc. c.	
26	.920	.851	.918	.896	81.5	82.8	77.0	78.3	86.2	72.0	14.2	162.5	76.3	70.0	2.0	NW.	NW.	Calm.	132	77.2	77.3	76.0	76.8	.797	.864	.886	.849	62	77	95	78	...	5	6	2	C. b.	Pc. c.	Cs. b.	
27	30 050	.775	.957	.927	78.3	80.2	75.0	76.3	86.2	71.5	14.7	123.0	36.8	69.9	1.6	NW.	WNW.	Calm.	133	76.8	76.5	74.0	75.8	.903	.858	.828	.869	93	85	95	71	...	8	6	2	C, Pc, o.	Pc. o.	Cs. b.	
28	29 993	.854	.940	.929	84.0	76.5	76.3	77.0	85.3	71.2	14.1	145.5	60.2	68.8	2.4	NW.	WNW.	Calm.	132	78.0	75.0	74.8	75.7	.879	.849	.843	.857	75	93	93	81	.49	4	9	8	K. b.	Ck. o.	Pc, o, r.	
29	.968	.838	.925	.910	82.5	79.2	75.0	76.7	85.4	70.2	15.2	152.5	67.1	68.9	1.3	NW.	NW.	Calm.	130	77.2	76.8	74.0	76.0	.865	.894	.828	.862	79	91	95	88								

Highest Atmospheric Pressure 30.050 Inches  
 Lowest Atmospheric Pressure 29.760 "  
 In the Shade { Highest Temperature 88.8° Fah.  
 Lowest Temperature 69.9° "  
 Greatest Fall of Rain in 24 hours 1.80 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

MAX. F. SIMON,  
 Acting Principal Civil Medical Officer.



# METEOROLOGICAL RESULTS OF THE KANDANG KERBAU OBSERVATORY, FOR THE MONTH OF NOVEMBER, 1890.

1° 17' N. Lat., 103° 51' E. Long.

Height of Bar Cistern above Sea Level, 10 ft.

DATE.	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NNE.	N.	Calm.	129	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	.10	2	8	6	K. b.	Pc. o. d.	Cs. e.
2	29.963	29.842	29.936	29.914	83.0	81.8	77.6	78.6	87.3	71.8	15.5	153.0	65.7	70.0	1.8	N.	NW.	Calm.	132	76.0	76.5	75.0	75.8	.843	.873	.856	.857	51	87.95	88	...	8	6	0	Ck. o.	C. e.	b.		
3	.950	.860	.937	.916	80.2	79.5	76.0	77.1	87.2	72.5	14.7	159.5	72.3	69.9	2.6	NNW.	NNW.	Calm.	129	77.5	77.0	74.3	76.3	.856	.852	.834	.847	74	77.95	82	...	2	10	2	b.	Pc. o.	C. b.		
4	.949	.843	.934	.909	84.0	82.8	75.5	78.5	86.5	71.8	14.7	152.0	65.5	68.9	2.9	NE.	N.	Calm.	129	78.0	76.2	75.0	76.4	.896	.856	.846	.866	80	84.93	86	.22	4	10	10	K. b.	Pc. o. r.	Pc. o.		
5	.972	.900	.960	.944	82.8	80.0	76.8	78.1	86.2	72.8	13.4	153.5	67.3	70.0	2.8	N.	NW.	Calm.	135	77.8	73.8	73.5	75.0	.872	.826	.820	.839	75	97.97	89	2.38	4	10	10	Kc. b.	Pc. o. r. l. t.	Pc. o.		
6	.967	.941	.964	.957	83.8	74.4	74.0	75.7	85.5	70.5	15.0	129.8	44.3	67.9	2.6	NNE.	NW.	Calm.	132	76.8	76.6	75.0	76.1	.808	.903	.849	.853	66	92.93	84	.02	6	10	10	Ck. c.	Pc. o. d.	Pc. o.		
7	.922	.876	.916	.905	85.3	78.2	76.5	78.2	87.5	72.9	14.6	154.5	67.0	68.9	4.0	NNW.	NW.	Calm.	132	77.8	76.0	75.0	76.3	.884	.835	.856	.858	78	80.95	84	.08	2	10	8	Ck. b.	Pc. o. r.	Pc. o. d.		
8	.928	.843	.915	.896	83.0	80.8	76.0	77.7	86.2	71.0	15.2	148.5	62.3	70.0	1.0	NE.	W.	Calm.	130	78.0	78.0	75.3	76.1	.868	.877	.862	.869	73	67.94	78	.15	2	6	10	Ck. b.	Ck. c.	Pc. o. r.		
9	.971	.867	.968	.835	84.8	86.5	76.5	80.1	88.3	72.4	15.9	152.5	64.2	71.5	0.9	NW.	NW.	N.	130	76.8	77.4	74.5	76.1	.906	.840	.835	.860	94	74.93	84	.01	10	10	6	Pc. o. r.	Kc. o.	Pc. c.		
10	.932	.850	.917	.899	78.2	83.8	76.0	77.5	84.8	72.0	12.8	121.0	36.2	71.0	1.0	N.	W.	Calm.	130	77.8	79.5	75.5	77.6	.858	.911	.871	.880	72	72.95	79	.45	2	5	10	Ck. b.	Pc. c.	Pc. o. r.		
11	.939	.833	.917	.896	85.0	86.8	76.5	80.2	89.5	72.3	17.2	163.5	74.0	70.9	1.4	NNW.	NW.	Calm.	139	77.0	75.0	74.8	75.9	.859	.854	.852	.855	79	94.95	89	1.22	4	10	10	Ck. c.	Pc. o. r. l. t.	Pc. o.		
12	.932	.785	.911	.876	82.3	76.2	75.8	76.8	86.2	72.8	13.4	152.5	66.3	70.0	2.8	NW.	NW.	Calm.	135	74.5	76.8	73.5	74.9	.851	.896	.807	.851	96	91.93	93	.40	10	10	10	Pc. o. d.	Pc. o. r.	Pc. o.		
13	.966	.778	.961	.902	75.3	78.8	75.0	75.5	81.8	72.3	9.5	112.5	30.7	71.0	1.3	NW.	NW.	Calm.	130	75.0	77.0	74.8	75.6	.849	.834	.850	.844	93	72.95	87	.05	10	6	10	Pc. o.	C. c.	Pc. o.		
14	30.006	.873	.940	.939	76.5	84.0	75.8	77.8	85.2	73.0	12.2	152.7	67.5	71.0	2.0	NW.	NW.	Calm.	130	75.5	74.8	74.0	74.8	.841	.814	.821	.826	87	84.93	88	...	9	10	10	Pc. c.	Pc. o.	Pc. o.		
15	29.949	.877	.942	.923	78.6	78.5	75.5	78.4	80.2	72.5	7.7	145.5	65.3	69.8	2.7	NW.	N.	Calm.	131	75.3	74.4	72.5	74.1	.831	.832	.794	.818	85	93.98	92	.02	4	10	2	Ck. b.	Pc. o. d.	C. b.		
16	.964	.839	.929	.911	78.8	76.0	73.0	74.7	82.2	71.0	11.2	155.8	73.6	70.5	0.5	NNW.	W.	Calm.	134	76.0	77.3	73.5	75.9	.843	.810	.814	.822	81	77.95	84	1.30	4	6	10	Ck. c. b.	Pc. k. c.	Pc. o. r.		
17	.954	.830	.945	.909	80.2	82.8	74.5	77.5	86.8	72.5	14.3	150.5	63.7	70.0	2.5	NE.	W.	Calm.	135	78.0	78.5	75.0	77.2	.890	.888	.849	.876	78	74.93	82	1.67	10	8	8	Pc. o.	Pc. o. d.	Pc. o. r.		
18	.952	.857	.934	.914	83.3	85.0	76.5	79.3	87.0	72.5	14.5	154.5	67.5	70.2	2.3	NE.	WNW.	Calm.	130	77.5	77.5	75.8	76.9	.909	.877	.880	.889	88	79.95	87	.02	6	10	10	Ck. c.	Pc. o. r.	Pc. o.		
19	.942	.880	.938	.920	80.2	82.5	76.8	78.3	85.8	73.5	12.3	145.9	60.1	71.8	1.7	NW.	NW.	Calm.	129	78.5	80.0	76.0	78.2	.902	.937	.865	.901	77	78.89	81	...	4	8	8	Ck. b.	Pc. c. o.	Pc. o.		
20	.967	.923	.966	.952	84.0	86.5	78.5	80.6	87.5	73.5	14.0	Not registerd.		70.5	3.0	NW.	WNW.	Calm.	130	78.0	77.5	75.5	77.0	.872	.877	.871	.873	74	79.95	83	.49	6	10	10	C. b.	Pc. o.	Pc. o. r.		
21	.958	.864	.930	.917	84.5	82.5	76.5	79.2	86.5	73.2	13.0			70.9	2.3	NW.	WNW.	Calm.	135	76.0	78.0	74.5	76.2	.845	.904	.845	.865	82	82.95	86	.13	4	8	4	Ck. b.	Pc. c. o.	C. b.		
22	.994	.879	.954	.942	80.0	82.2	75.5	77.8	88.5	73.5	15.0			70.0	3.5	NE.	W.	Calm.	131	77.0	78.2	76.8	77.3	.852	.852	.898	.867	76	68.91	78	...	2	4	2	C. b.	C. b.	C. b.		
23	.996	.931	.959	.962	82.8	86.5	78.8	80.3	88.5	73.0	15.5			70.5	2.5	NW.	NW.	Calm.	132	75.5	78.0	76.3	76.6	.800	.845	.888	.844	74	67.93	78	...	8	5	2	C. o.	Ck. o.	C. c.		
24	.921	.831	.915	.889	81.8	86.5	77.8	79.8	86.2	73.2	13.0			70.2	3.0	WNW.	W.	NE.	132	76.8	79.0	77.8	77.9	.869	.884	.903	.885	83	69.87	79	...	8	4	8	Pc. o.	Ck. b.	Pc. o.		
25	.981	.855	.947	.928	80.8	87.0	80.8	80.4	87.2	73.0	14.2			72.0	1.0	N.	N.	Calm.	133	74.5	76.2	75.5	75.4	.808	.855	.871	.845	84	85.95	88	.13	10	10	8	Pc. o. d.	Pc. o. d.	Pc. c. o.		
26	30.003	.829	.994	.942	78.0	80.0	76.5	79.2	84.5	72.4	12.1	Not registerd.		70.4	2.0	N.	NE.	Calm.	134	77.5	77.5	75.0	76.7	.883	.924	.868	.892	81	93.98	91	1.61	8	10	2	Pc. o. r.	Pc. o. r.	C. b.		
27	29.983	.863	.972	.939	82.0	79.0	75.3	77.0	83.0	71.8	11.2	116.5	33.5	69.9	1.9	N.	SE.	Calm.	131	77.3	78.8	75.0	77.0	.871	.850	.849	.857	79	69.93	80	1.10	2	3	2	K. b.	Ck. b. d.	C. b.		
28	.978	.841	.844	.888	82.3	86.5	76.5	79.2	85.8	71.5	14.3	151.5	65.7	70.5	1.0	NE.	NE.	Calm.	134	75.5	76.5	75.5	76.4	.868	.847	.875	.863	97	76.97	90	...	10	10	8	Pc. o. r.	Pc. o.	C. o.		
29	.994	.855	.970	.939	76.8	82.6	76.3	76.7	84.5	71.2	13.3	153.0	68.5	70.3	0.9	NE.	NNW.	Calm.	133	77.8	76.5	75.0	76.4	.869	.894	.856	.873	75	93.95	88	1.88	4	8	2	K. b.	Ck. o. r.	C. b.		
30	.966	.856	.935	.909	83.0	78.0	76.0	77.8	84.5	74.2	10.3	153.2	68.7	73.5	0.7	NE.	NNW.	Calm.	133	77.8	76.5	75.0	76.4	.869	.894	.856	.873	75	93.95	88	...	8	8	10	Pc. c. r.	P			

Highest Atmospheric Pressure 30.006 Inches.  
 Lowest Atmospheric Pressure 29.778 "  
 In the shade, { Highest Temperature 88.°5 Fah.  
 { Lowest Temperature 70.°5 "  
 Greatest Fall of Rain in 24 hours 2.38 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

MAX. F. SIMON,  
 Acting Principal Civil Medical Officer.



# METEOROLOGICAL RESULTS OF THE KANDANG KERBAU HOSPITAL OBSERVATORY, FOR THE MONTH OF DECEMBER, 1890.

1° 17' N. Lat., 103° 51' E. Long.

Height of Bar Cistern above Sea Level, 10 ft.

DATE	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inches.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.							
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																									
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NE.	SE.	Calm.	131	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%		9 H.	15 H.	21 H.	K, b.	Pc, K, b.	Pc, o, r.					
2	29.895	29.769	29.881	29.848	81.8	84.0	76.0	78.3	86.5	71.5	15.0	154.3	67.8	69.5	2.0	NE.	SE.	Calm.	129	77.0	78.0	75.5	76.8	.855	.797	.856	.836	79	74	95	83	.40	4	4	10	K, Pc, c.	Pc, o.	Pc, o, r.					
3	.905	.806	.900	.870	81.8	84.2	77.0	78.7	86.2	71.8	14.4	154.5	68.3	69.8	2.0	NE.	NE.	Calm.	129	77.0	78.0	75.5	76.8	.865	.877	.864	.879	80	74	93	83	...	4	8	2	Ck, b.	Pc, o.	C, b.					
4	.952	.852	.916	.907	83.2	81.6	75.5	78.3	87.4	72.9	14.5	151.0	63.6	70.8	1.9	N.	NW.	NE.	130	77.0	77.2	74.5	76.2	.845	.872	.842	.853	75	82	95	84	...	2	9	2	Ck, c.	Pc, C, o.	C, b.					
5	.975	.795	.936	.902	81.0	78.0	74.0	75.8	83.8	70.0	13.8	132.5	48.7	67.5	2.5	NW.	NW.	Calm.	193	77.5	76.0	73.0	75.5	.897	.872	.800	.856	85	91	95	90	.66	6	8	2	Ck, l.	Pc, K, o, r.	Pc, o, r.					
6	.941	.872	.935	.916	82.0	80.8	76.0	77.8	83.8	72.5	11.3	142.5	58.7	72.0	0.5	NW.	NW.	NW	136	77.0	77.1	75.0	76.5	.862	.879	.856	.866	79	84	95	86	1.01	4	8	10	Ck, b.	Pc, o, r.	Pc, b.					
7	.952	.849	.935	.912	77.0	84.2	75.8	76.8	81.9	70.0	14.9	138.7	53.8	67.5	2.5	N.	NNW.	Calm.	135	76.0	76.7	75.0	75.9	.836	.819	.860	.855	95	70	97	87	.12	10	4	2	Pc, o, r.	K, b.	b.					
8	.950	.844	.912	.902	82.6	82.8	77.0	78.2	85.0	70.5	14.5	151.5	66.5	69.0	1.5	W.	NE.	Calm.	131	78.2	77.8	75.5	77.2	.903	.886	.864	.851	82	79	93	85	...	4	8	0	Pc, b.	Pc, o.	b.					
9	.969	.820	.891	.896	78.0	83.2	75.8	77.3	83.5	72.0	11.5	131.5	48.0	70.0	2.0	NW.	W.	Calm.	133	76.5	78.0	75.0	76.5	.894	.891	.862	.882	93	78	95	89	.11	8	8	0	Ck, o, r.	Pc, o.	Po, r.					
10	.963	.865	.942	.923	79.0	77.8	75.5	74.4	83.8	70.2	13.6	150.5	66.7	63.7	1.5	NW.	NW.	Calm.	146	76.5	75.5	74.5	75.5	.880	.868	.842	.863	89	94	95	93	3.71	10	10	10	Pc, o.	P, o, r.	Pc, o, d.					
11	.946	.931	.923	.933	79.5	77.6	74.8	75.9	84.0	71.9	12.1	157.5	73.5	69.8	2.1	NW.	W.	Calm.	144	77.0	75.5	73.8	75.4	.895	.857	.832	.828	89	90	9	93	.34	0	10	10	Kc, b.	Pc, o, d.	Pc, o, d.					
12	.960	.853	.939	.917	78.3	77.2	75.0	75.6	81.4	71.8	10.6	122.5	41.1	68.5	3.3	NW.	NE.	Calm.	141	76.8	75.0	74.0	75.3	.903	.841	.828	.867	93	90	35	93	1.05	8	10	10	Pc, o.	Pc, o, r.	Pc, o, r.					
13	.913	.834	.902	.883	79.5	82.8	75.8	77.5	81.2	71.9	12.3	146.5	62.3	63.9	3.0	NW.	NE.	Calm.	131	75.5	77.3	75.0	75.9	.831	.864	.860	.852	82	77	96	95	.10	4	7	10	C, b.	Pc, o.	Pc, o, r.					
14	.924	.880	.901	.902	82.2	77.0	76.0	76.9	84.8	72.3	12.5	150.0	65.2	70.0	2.3	NW.	NW.	Calm.	134	77.0	75.8	75.0	75.9	.859	.877	.856	.864	78	83	95	89	1.21	2	9	10	C, b.	Pc, o, r.	Pc, o.					
15	.954	.863	.923	.913	75.5	79.0	74.8	75.4	81.2	72.2	9.0	124.5	43.3	69.9	2.3	NW.	NE.	Calm.	133	75.0	75.0	74.0	75.0	.856	.816	.831	.834	78	82	97	86	.10	10	10	8	Pc, o, r.	Pc, o, r.	Pc, o.					
16	.976	.860	.925	.920	74.5	80.0	74.3	75.4	82.4	72.5	9.9	132.5	50.1	71.8	0.7	NE.	NE.	Calm.	131	73.5	76.0	73.5	74.3	.814	.845	.818	.826	95	82	97	91	.21	10	10	8	Pc, o, r.	Pc, o, r.	Pc, o.					
17	.948	.867	.921	.912	77.0	84.2	75.8	76.5	81.4	72.0	9.4	112.2	30.8	63.0	4.0	NE.	NW.	NE.	130	75.0	77.0	74.5	75.7	.843	.873	.845	.854	91	82	94	87	...	10	10	10	Pc, o.	Pc, o.	Pc, o.					
18	.977	.855	.934	.922	79.0	86.2	76.5	77.9	86.4	70.0	14.4	149.5	63.1	66.8	3.2	NW.	NW.	NE.	128	75.5	76.5	74.0	75.3	.837	.783	.807	.809	85	62	85	78	...	10	8	2	C, o.	Ck, o.	C, b.					
19	.959	.847	.931	.912	81.8	84.8	76.6	78.2	87.8	70.2	17.6	157.5	69.7	67.0	3.2	NE.	W.	Calm.	130	74.5	77.0	74.5	75.3	.758	.825	.835	.806	70	63	93	77	...	2	10	2	K, b.	Pc, o.	Ck, b.					
20	30.004	.852	.940	.932	82.5	83.0	76.5	77.7	85.8	68.7	17.1	149.5	63.7	66.8	1.9	NE.	N.	NE.	129	76.8	77.5	75.5	76.6	.847	.870	.871	.863	76	77	95	83	.17	4	6	6	C, b.	C, c.	Ck, b.					
21	29.998	.891	.961	.950	77.0	85.0	76.0	76.3	86.0	67.3	18.7	152.3	66.3	61.5	2.8	NW.	NE.	Calm.	132	74.8	78.5	73.3	75.5	.833	.888	.785	.833	90	74	89	84	...	10	8	6	Pc, o.	Ck, o.	Ck, c.					
22	.901	.819	.889	.869	81.0	86.4	77.5	78.5	87.5	69.9	17.6	155.0	67.5	65.5	4.4	NE.	NW.	NE.	129	75.3	76.4	74.8	75.5	.802	.778	.820	.802	76	61	87	75	...	2	4	2	C, b.	Ck, b.	Cs, b.					
23	.975	.844	.963	.929	84.0	86.0	77.0	79.8	90.2	72.2	18.0	154.2	64.0	68.2	4.0	NW.	NE.	NE.	128	77.0	76.5	74.0	75.8	.834	.786	.801	.817	72	63	86	74	...	2	2	2	C, b.	Ck, b.	Ck, b.					
24	.986	.895	.975	.952	81.8	81.0	76.0	76.9	86.2	68.9	17.3	155.5	69.3	67.2	1.4	NE.	SSW.	Calm.	131	78.8	76.5	74.0	76.4	.945	.853	.814	.871	87	81	91	86	.02	4	6	0	Ck, b.	Kc, Kc, d.	b.					
25	30.023	.928	.979	.980	83.8	83.2	74.5	79.4	90.0	71.0	19.0	155.0	65.0	70.5	0.5	NE.	NE.	Calm.	132	77.8	78.0	74.0	76.6	.863	.823	.774	.820	75	62	78	72	1.10	2	8	4	C, b.	Pc, o, r.	Ck, b.					
26	29.994	.864	.950	.936	79.8	87.5	76.8	78.6	87.8	70.2	17.6	155.0	67.2	67.3	2.9	NW.	NE.	Calm.	129	76.8	76.5	74.3	75.9	.831	.765	.815	.920	87	59	88	78	...	0	4	2	Pc, c.	K, b.	Cs, b.					
27	.979	.831	.941	.917	80.8	85.5	76.0	78.6	87.8	72.0	15.8	152.5	64.7	69.9	2.1	N.	NW.	Calm.	125	76.8	79.0	74.5	76.8	.869	.901	.835	.869	83	74	93	80	.07	2	6	10	Cs, K, b.	Ck, c.	Pc, o, r.					
28	.982	.859	.950	.930	78.5	83.8	76.5	78.0	88.0	73.2	14.8	155.2	67.2	70.2	3.0	NW.	ESE.	Calm.	133	76.8	77.5	75.5	76.5	.879	.860	.871	.870	90	75	95	87	.39	6	6	10	C, c.	Pc, Pk, c.	Pc, o, r.					
29	30.002	.882	.942	.942	80.2	82.8	75.5	77.6	86.2	71.9	14.3	158.3	72.1	69.2	2.7	NE.	NE.	Calm.	133	75.8	76.8	74.0	75.5	.836	.842	.821	.833	81	75	93	83	.50	2	8	10	K, b.	Pc, o, d.	Pc, o, r.					
30	29.957	.860	.920	.909	80.8	83.8	76.5	78.4	86.2	72.5	13.7	139.5	53.3	69.9	2.6	NE.	NE.	Calm.	128	76.8	78.5	75.5	76.9	.869	.911	.871	.884	85	80	95	86	.27	6	10	2	C, c.	Pc, o, r.	Cs, b.					
Mean.	.937																																										

Highest Atmospheric Pressure 30.023 Inches  
 Lowest Atmospheric Pressure 29.769 "  
 In the Shade { Highest Temperature 90.2 Fah.  
 Lowest Temperature 67.3 "  
 Greatest Fall of Rain in 24 hours 3.71 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

MAX. F SIMON.  
 Principal Civil Medical Officer.



METEOROLOGICAL RESULTS OF THE PENANG HOSPITAL OBSERVATORY, FOR THE MONTH OF JANUARY, 1890.  
 5°24' N. Lat., 100°-2 E. Long.  
 Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.						
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																								
1	29.854	29.813	29.836	29.801	82.0	85.0	80.0	80.2	87.0	75.0	12.0	152.0	65.0	70.0	5.0		NE.	NE.	NW.	.65	77.0	79.0	77.0	77.0	.862	.911	.889	.887	79	76	87	81	...	4	4	4	Cs, b.	Cs, b.	Cs, b.			
2	.870	.844	.852	.855	82.0	86.0	80.0	81.0	88.0	76.0	12.0	154.0	66.0	71.0	5.0		NE.	NE.	NW.	.175	77.0	80.0	76.0	77.2	.862	.944	.845	.884	79	76	82	79	...	4	6	2	Cs, b.	Cs, b.	Cs, b.			
3	.855	.753	.827	.812	82.0	84.0	79.0	80.0	77.0	75.0	12.0	155.0	68.0	70.0	5.0		NE.	NE.	NW.	.195	77.0	76.0	75.0	75.7	.862	.791	.816	.826	79	68	82	76	...	6	4	2	Ck, b.	Cs, b.	Cs, b.			
4	.897	.854	.873	.873	82.0	85.0	79.0	80.1	77.0	75.0	12.0	156.0	69.0	70.0	5.0		NE.	NE.	NW.	.160	77.0	79.0	75.0	77.5	.862	.911	.816	.863	79	76	82	76	...	6	5	4	Ck, b.	Cs, b.	Cs, b.			
5	.937	.820	.910	.889	81.0	83.0	77.0	79.0	86.0	75.0	11.0	145.0	59.0	69.0	6.0		NE.	NE.	NW.	.50	75.0	77.0	74.0	75.2	.789	.848	.801	.813	74	75	86	78	2.00	8	8	10	Pk, s.	Pk, o.d.	Pk, o.			
6	.967	.930	.946	.948	80.0	83.0	79.0	78.9	86.0	73.5	12.5	143.0	57.0	69.0	4.5		NE.	NE.	NW.	.80	73.0	76.0	75.0	74.3	.719	.804	.816	.780	70	71	82	74	...	6	4	4	Pk, s.	Ck, b.	Ck, b.			
7	.974	.827	.938	.913	82.0	86.0	79.0	80.0	87.0	73.0	14.0	148.0	61.0	66.0	7.0		NE.	NE.	NW.	.125	76.0	77.0	75.0	72.7	.818	.807	.816	.814	75	65	82	74	...	6	4	2	Ck, b.	Cs, b.	Cs, b.			
8	.909	.795	.836	.863	79.0	86.0	77.0	78.2	88.0	72.0	16.0	153.0	65.0	68.0	4.0		NE.	NE.	NW.	.140	76.0	76.0	75.0	74.7	.858	.764	.843	.822	87	61	91	80	...	2	2	2	Cs, b.	Cs, b.	Cs, b.			
9	.959	.778	.971	.903	81.0	90.0	81.0	80.3	90.0	71.0	19.0	147.0	57.0	66.0	5.0		NE.	NE.	NW.	.60	74.0	76.0	77.0	74.5	.747	.710	.747	.735	71	50	71	64	.10	4	5	4	Pk, b.	Ck, b.	Cs, b.			
10	.970	.840	.870	.893	81.0	86.0	80.5	80.5	88.5	74.5	14.0	151.0	62.5	68.0	6.5		NE.	NE.	NW.	.140	76.0	78.0	77.0	71.3	.831	.852	.882	.855	78	68	82	77	...	4	4	8	Ck, b.	Cs, b.	Ck, b.			
11	.952	.845	.916	.904	83.5	81.5	78.5	79.9	89.0	76.0	13.0	148.0	59.0	70.0	6.5		NE.	NE.	NW.	.135	79.0	78.0	77.0	75.0	.899	.886	.849	.878	81	75	93	83	.50	5	5	6	Pk, b.	Ck, b.	O, r.			
12	.847	.812	.841	.833	82.5	88.7	80.0	81.6	92.0	75.0	17.0	150.0	58.0	72.0	3.0		NE.	NE.	NW.	.85	76.0	81.0	75.0	74.2	.811	.965	.802	.863	73	73	78	75	.70	2	4	4	Ck, b.	Pk, c.	Pk, o.d.			
13	.914	.788	.820	.834	79.5	87.5	78.0	79.0	88.5	71.0	17.5	145.0	56.5	66.5	4.5		NE.	NE.	NW.	.50	76.0	74.5	74.0	72.8	.679	.707	.794	.726	73	55	86	71	.30	2	2	6	Ck, b.	Ck, b.	Pk, s.			
14	.910	.802	.890	.867	79.5	91.0	78.5	80.3	92.5	72.0	20.5	146.0	53.5	69.0	5.0		NE.	NN.	NW.	.114	72.0	79.0	76.0	74.7	.685	.830	.865	.793	68	51	89	79	.10	4	3	2	Cs, b.	Cs, b.	Ck, b.			
15	.953	.821	.927	.900	73.5	89.5	80.5	99.8	90.5	75.5	15.0	149.0	58.5	71.0	4.5		NE.	NE.	NW.	.85	71.5	73.0	75.0	73.7	.666	.591	.795	.684	70	43	76	63	.10	4	5	8	Pk, o.	Ck, b.	Cs, b.			
16	.959	.844	.952	.910	83.5	85.0	81.5	81.8	89.5	77.0	12.5	143.0	53.5	72.0	5.5		NE.	NE.	NW.	.90	78.5	78.0	78.0	77.8	.893	.866	.913	.890	79	72	85	78	.30	5	6	8	Ck, b.	Cs, b.	Pk, o.			
17	.961	.857	.915	.911	78.0	80.5	76.0	77.1	86.5	74.0	12.5	142.0	55.5	70.5	3.5		NE.	NE.	NW.	.75	73.5	79.0	75.5	75.5	.746	.884	.839	.823	78	69	89	78	.20	4	7	10	Ck, b.	Cs, b.	Pk, o.			
18	.913	.798	.876	.862	77.5	79.5	74.5	76.4	81.0	74.0	13.0	105.0	24.0	73.5	5.0		NE.	NE.	NW.	.150	75.5	77.0	73.0	74.8	.843	.895	.793	.843	91	89	93	91	...	8	8	10	Pk, o.	Pk, o.	Pk, o.r.			
19	.960	.833	.939	.910	80.5	85.5	82.0	81.4	86.0	77.5	8.5	153.0	67.0	69.0	8.5		NE.	NE.	NW.	.94	73.0	75.0	74.0	73.7	.712	.728	.733	.724	68	59	67	64	...	2	4	8	Ck, b.	Cs, b.	Ck, b.			
20	.973	.800	.913	.895	80.5	86.0	79.0	80.4	86.5	76.0	10.9	148.0	61.5	65.0	1.1		NE.	NE.	NW.	.55	75.5	71.5	72.0	72.6	.802	.565	.692	.842	78	46	70	64	.60	2	7	4	Ck, b.	Pk, o.d.	Cs, b.			
21	.977	.841	.912	.910	81.0	86.0	80.0	81.1	87.0	77.5	9.5	150.0	63.0	69.5	8.0		NE.	NE.	NW.	.85	74.5	74.0	74.5	74.0	.753	.679	.767	.733	72	55	76	67	...	4	2	2	Ck, b.	Cs, b.	Pk, o.			
22	.967	.862	.961	.910	78.5	80.5	75.5	77.0	82.5	73.5	12.5	135.0	28.5	71.0	2.5		NE.	NE.	NW.	.40	74.0	75.0	73.5	73.8	.780	.795	.786	.787	80	76	90	82	...	6	8	6	Pk, c.	Pk, o.d.	Pk, c.			
23	.901	.802	.866	.856	84.0	84.0	79.0	80.1	88.0	73.5	14.5	146.0	58.0	73.0	5.0		NE.	NE.	NW.	.69	78.0	77.0	77.0	73.1	.879	.834	.902	.871	75	72	91	79	1.50	6	8	8	Ck, c.	Pk, o.	Pk, o.r.			
24	.965	.847	.918	.910	78.5	85.5	78.0	79.3	87.0	75.0	12.0	142.0	55.0	74.0	5.0		NE.	NE.	NW.	.55	75.5	76.0	76.0	70.8	.829	.771	.872	.824	86	63	91	80	.10	8	6	8	Pk, o.	Pk, o.d.	Pk, o.r.			
25	.961	.808	.868	.862	77.5	79.5	77.5	77.3	86.0	74.5	11.5	143.0	57.0	71.5	3.0		NE.	NE.	NW.	.35	77.5	76.0	75.5	74.2	.848	.879	.839	.855	75	75	89	79	...	6	8	8	Pk, o.d.	Ck, c.	Pk, o.d.			
26	.918	.758	.903	.859	77.0	82.0	79.0	78.1	89.0	74.5	14.5	155.0	66.0	72.0	2.5		NE.	NE.	NW.	.75	77.0	78.5	74.0	73.7	.862	.825	.814	.833	79	77	91	82	...	6	6	2	Ck, c.	Pk, o.	Pk, c.			
27	.855	.804	.891	.850	82.0	86.0	80.0	81.0	88.0	76.0	10.0	148.0	60.0	72.0	4.0		NE.	NE.	NW.	.55	76.0	78.0	75.0	77.0	.818	.852	.802	.831	75	68	78	78	...	4	4	5	Cs, b.	Pk, c.	C, b.			
28	.869	.799	.801	.823	85.5	89.0	78.0	81.4	90.0	73.0	13.0	146.0	56.0	70.0	3.0		NE.	NE.	NW.	.40	78.0	81.0	76.0	77.0	.859	.986	.872	.875	70	70	91	83	...	4	6	7	K, b.	Ck, b.	Pk, c.			
29	.936	.790	.820	.848	83.5	88.0	77.0	81.0	90.0	76.0	14.0			74.0	2.0		NE.	NE.	NW.	.85	77.0	78.0	76.0	76.7	.841	.841	.825	.886	73	73	62	95	.10	6	7	8	Cs, b.	Cs, b.	Pk, o.			
30	.942	.829	.840																																							

Highest Atmospheric Pressure 29.977 Inches  
 Lowest Atmospheric Pressure 29.753 "  
 In the Shade, { Highest Temperature 92°5 Fah.  
 { Lowest Temperature 71°0 "  
 Greatest Fall of Rain in 24 hours 2.00 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H 21, H, and Minimum Temperature.

F. K. HAMPSHIRE, M.B.,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE PENANG, OBSERVATORY, FOR THE MONTH OF FEBRUARY, 1890.

5°24' N. Lat., 100°20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Velo- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.	
																9 H.	15 H.																					21 H.
1	30.017	29.892	29.806	29.905	82.0	88.5	78.0	80.3	90.5	73.5	18.0	...	...	69.5	3.0	NE.	NW.	NW.	110	73.5	76.0	77.0	74.7	.699	.730	.916	.781	65	54	95	71.3	...	1	6	10	Cb.	Ck, c.	Pk, o.
2	29.973	.900	.915	.929	79.5	83.0	79.0	79.5	89.0	71.5	17.5	...	...	69.5	2.0	NE.	NW.	NW.	45	74.5	76.0	77.0	74.7	.774	.737	.902	.804	78	56	91	75.0	...	4	5	7	Ck, b.	Cs, c.	Pc, c.
3	.993	.881	.820	.898	81.0	87.0	78.0	79.7	88.0	73.0	15.0	...	...	68.0	5.0	NE.	NW.	NW.	105	73.0	75.0	75.0	74.0	.703	.707	.829	.747	67	55	86	69.0	...	1	3	5	Cb.	Kb.	Ck, c.
4	.914	.890	.904	.902	83.5	88.0	79.0	83.0	88.5	71.5	17.0	...	...	65.5	6.0	NE.	NW.	NW.	210	73.0	79.0	76.0	74.8	.678	.871	.858	.802	59	66	87	70.0	...	1	6	9	Cb.	Ck, c.	Pc, c.
5	.909	.820	.810	.846	81.5	89.0	78.0	81.1	90.0	76.0	14.0	...	...	71.5	4.5	NE.	NW.	NW.	202	73.5	76.0	75.0	75.1	.705	.723	.829	.752	67	53	86	68.0	.20	3	8	10	Cs, b.	Ck, c.	Pc, Pkor
6	.946	.841	.820	.869	80.0	86.0	76.0	79.2	90.0	75.0	15.0	...	...	72.0	3.0	NE.	NW.	NW.	110	72.5	76.0	74.0	74.3	.924	.764	.814	.834	68	61	91	73.0	.70	9	8	10	Pc, Pkc.	Pk, c.	Or.
7	.920	.797	.800	.839	82.5	87.0	76.0	79.8	88.5	74.0	14.5	...	...	72.0	2.0	NE.	NW.	NW.	50	77.5	73.0	75.0	73.6	.862	.838	.856	.852	78	65	95	79.0	.10	7	6	10	Kc.	Kc.	Pc, Pko.
8	.819	.836	.820	.825	82.0	87.5	78.0	80.2	89.0	73.5	15.5	...	...	69.5	4.0	NE.	NW.	NW.	50	76.0	74.0	76.0	74.8	.818	.659	.759	.745	75	50	91	75.0	...	2	4	10	Cb.	Kb.	Pc, Pko.
9	.913	.814	.804	.843	82.5	88.5	76.0	80.6	89.5	75.5	14.0	...	...	72.5	3.0	NE.	NW.	NW.	140	74.0	76.0	75.0	75.1	.726	.737	.856	.773	65	54	63	60.0	.10	3	4	10	Cs, b.	Kc, b.	Or.
10	.913	.804	.800	.839	85.0	85.0	78.0	80.3	89.0	73.0	16.0	145.0	56.0	72.0	1.0	NE.	NW.	NW.	105	76.5	75.0	76.0	70.8	.784	.866	.872	.840	66	72	91	76.0	.30	3	4	10	Cs, b.	Ck, b.	Or.
11	.759	.798	.802	.798	80.0	84.0	80.0	79.7	88.5	75.0	13.5	160.0	71.5	73.5	1.5	NE.	NW.	NW.	85	73.0	77.0	75.0	75.0	.719	.834	.702	.751	70	72	78	76.0	.60	6	10	10	Ck, c.	Or.	Or.
12	.890	.810	.820	.840	78.5	79.5	76.0	77.0	81.0	74.0	7.0	123.0	42.0	71.0	3.0	NE.	NW.	NW.	125	75.0	76.5	75.0	75.1	.839	.858	.856	.851	89	87	95	90.0	...	9	9	9	Pc, o.	Pc, o.	Pc, o.
13	.946	.791	.816	.851	81.0	85.0	78.0	79.6	87.5	74.5	13.0	160.0	72.5	72.0	2.5	NE.	NW.	NW.	125	76.0	78.5	77.0	76.5	.831	.879	.916	.875	78	72	95	81.0	.60	8	8	10	Pc, c.	Pc, Ckc.	Or.
14	.875	.801	.815	.831	82.5	85.0	79.0	80.0	88.0	74.5	13.3	152.0	64.0	70.0	4.5	NE.	NW.	NW.	100	76.5	78.0	76.0	76.2	.818	.834	.858	.836	75	72	87	78.0	.40	8	8	10	Ck, c.	Pc, c.	Or.
15	.835	.780	.800	.805	83.5	83.0	75.0	79.8	86.5	75.0	11.5	159.0	72.5	70.0	5.0	NE.	NW.	NW.	75	78.5	77.0	76.0	76.6	.893	.848	.872	.871	79	75	91	81.0	...	5	6	5	Cs, b.	Ck, c	Ck, c.
16	.806	.707	.750	.754	80.0	87.5	77.0	79.7	88.5	74.5	14.0	161.0	75.5	72.0	2.5	NE.	NW.	NW.	30	77.5	78.0	75.0	76.2	.895	.832	.843	.856	89	63	91	81.0	.30	10	7	10	Od.	Kc.	Or.
17	.837	.742	.808	.795	85.0	88.0	78.0	81.7	89.5	76.0	13.5	153.0	63.5	72.5	3.5	NE.	NW.	NW.	85	79.0	78.0	76.0	77.2	.891	.835	.872	.862	70	62	91	74.0	.30	4	5	9	Kc, b.	Kc, b.	Or.
18	.905	.793	.830	.842	84.0	85.0	78.5	80.7	88.5	75.5	13.0	151.0	62.5	72.5	3.0	NE.	NW.	NW.	165	77.0	78.0	76.0	76.7	.841	.859	.865	.855	73	68	89	76.0	.70	4	8	10	Kb.	Ck, c.	Or.
19	.919	.820	.840	.859	82.0	86.0	78.0	80.1	86.5	74.5	12.0	148.0	61.5	72.0	2.5	NE.	NW.	NW.	130	77.5	78.0	75.0	76.0	.868	.852	.829	.849	81	68	66	71.0	...	7	8	10	Pc, c.	Pk, c.	Ck, d.
20	.910	.795	.824	.843	83.0	87.5	77.0	79.8	88.5	72.0	16.5	146.0	57.5	68.5	3.5	NW.	NW.	NW.	130	78.0	78.0	75.0	75.0	.893	.832	.863	.862	79	64	75	72.0	...	4	3	8	Cs, b.	Kb.	Ck, d.
21	.909	.780	.830	.839	82.0	88.0	76.0	80.1	90.0	74.5	15.5	149.0	59.0	73.0	1.5	NW.	NW.	NW.	140	75.5	78.5	75.0	75.8	.782	.832	.856	.823	73	64	95	77.0	.12	2	7	10	Kb.	Pc, c.	Or.
22	.899	.800	.820	.839	84.0	85.5	78.0	80.5	88.5	75.0	13.5	154.0	55.5	73.0	2.0	NW.	NW.	NW.	60	75.5	78.0	77.0	76.0	.785	.859	.922	.855	65	70	95	76.0	...	5	5	4	Cs, b.	Cs, b.	Cs, b.
23	.891	.770	.786	.815	81.5	87.0	77.0	80.0	90.0	74.5	15.5	150.0	60.0	72.5	2.0	NW.	NW.	NW.	50	76.5	79.0	75.0	76.2	.831	.884	.843	.852	78	69	91	79.0	1.15	3	8	10	Cs, b.	Pc, c.	Or.
24	.846	.753	.774	.791	82.5	83.0	76.0	78.5	84.0	72.5	11.5	121.0	37.0	70.0	2.5	NW.	NW.	NW.	75	77.0	76.0	74.0	75.7	.855	.804	.814	.824	77	71	91	79.0	2.48	3	10	10	Cs, b.	Pk, Or.	Od.
25	.903	.785	.842	.843	82.5	86.0	77.0	79.4	88.0	72.0	16.0	154.0	66.0	69.0	3.0	NW.	NW.	NW.	85	76.5	78.0	75.0	76.5	.833	.852	.843	.843	75	68	95	79.0	...	7	2	6	Mb.	Ck, b.	Cs, d.
26	.936	.809	.846	.864	82.5	86.0	77.0	80.1	88.5	75.0	13.5	151.0	62.5	70.0	5.0	NW.	NW.	NW.	45	76.0	78.0	76.0	75.7	.811	.852	.886	.849	73	68	95	78.0	...	6	6	4	Ck, b.	Cs, b.	Ck, b.
27	.882	.831	.901	.871	82.0	83.0	77.0	78.6	88.0	72.5	15.5	149.5	61.5	69.0	2.5	NW.	NW.	NW.	95	76.0	76.5	75.5	74.7	.818	.826	.864	.836	75	73	93	80.0	...	2	6	3	Cb.	Pc, c.	Cb.
28	.955	.784	.864	.868	83.0	90.0	83.0	81.9	90.0	71.5	18.5	148.5	58.5	70.5	1.0	NW.	NW.	NW.	100	77.0	79.0	77.5	75.5	.848	.843	.870	.854	75	60	77	71.0	...	3	2	4	Cb.	Cb.	Pc, l.
29																																						
30																																						
31																																						
Mean.	29.902	29.808	29.823	29.844	82.1	86.2	77.6	79.9	88.3	73.8	14.4	149.2	60.8	70.8	3.0				101	75.8	77.3	75.6	75.3	.812	.816	.852	.826	73	65	88	75.0	Total. 8.90	5	6	8			

Highest Atmospheric Pressure 30.017 Inches.  
 Lowest Atmospheric Pressure 29.707 "  
 In the shade, { Highest Temperature 90.5 Fah.  
 { Lowest Temperature 71.5 "  
 Greatest Fall of Rain in 24 hours 2.48 Inches.

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSHIRE. M.B.,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE GAOL HOSPITAL OBSERVATORY, FOR THE MONTH OF MARCH, 1890.

5°24' N. Lat., 100°20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Velo- city.  Total Miles.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.	
																9 H.	15 H.																					21 H.
1	.934	.841	.917	.897	83.0	88.5	78.5	81.1	90.0	74.5	15.5	150.0	60.0	72.5	2.0	NW.	SE.	S.	140	75.5	77.5	77.0	75.5	.783	.795	.909	.829	69	59	93	74	...	4	4	4	Cs. c.	Cs. c.	Cs. c.
2	.950	.847	.921	.906	80.0	85.0	77.5	79.2	87.5	74.5	13.0	146.0	58.5	73.0	1.5	NW.	SE.	S.	75	75.0	77.0	76.5	75.1	.958	.821	.901	.893	79	68	95	81	.62	8	10	10	Pc. c.	Pk. o.	Pk. o.
3	.958	.796	.914	.889	81.5	89.0	79.5	80.9	89.0	73.5	15.5	150.5	61.5	71.5	2.0	N.	S.	S.	80	77.0	80.0	77.5	76.7	.868	.903	.917	.896	81	66	91	79	.40	5	7	10	Cs. b.	Pc. c.	Pc. o.
4	.964	.825	.927	.905	83.0	88.5	79.0	80.7	90.0	72.5	17.5	155.0	65.0	71.0	1.5	NW.	W.	S.	50	77.0	79.5	77.0	76.1	.848	.887	.902	.879	75	66	91	77	.03	3	6	8	Cs. b.	Pc. c.	Pc. c.
5	.959	.809	.934	.901	82.0	87.0	78.5	80.1	89.5	73.0	16.5	152.5	63.0	70.5	2.5	NW.	SE.	S.	40	77.0	79.0	77.0	75.7	.862	.884	.909	.885	79	69	93	80	...	4	4	6	Cs. b.	Cs. c.	Pc. c.
6	.966	.820	.936	.907	83.0	88.5	78.5	80.6	90.5	72.5	18.0	150.5	60.0	71.0	1.5	N.	NNW.	W.	60	77.0	79.5	77.5	75.9	.848	.887	.932	.889	75	66	95	79	...	3	2	0	Cb.	Cb.	b.
7	.943	.807	.921	.890	84.5	89.0	78.0	81.0	90.5	72.5	18.0	149.5	59.0	71.0	1.5	NE.	N.	SW.	140	77.0	80.0	77.0	76.0	.828	.903	.916	.882	70	66	95	77	...	2	2	2	Cb.	Cb.	Cb.
8	.897	.783	.876	.852	82.0	88.5	77.0	80.2	90.0	73.5	16.5	150.0	60.0	72.0	1.5	N.	E.	SW.	55	75.5	80.0	76.5	75.5	.796	.910	.846	.851	73	68	78	73	...	0	4	4	B.	Pk. c.	Pk. c.
9	.900	.793	.887	.860	84.0	89.0	77.0	81.2	90.0	75.0	15.0	150.5	60.5	72.5	2.5	N.	SE.	S.	95	76.5	80.0	77.0	76.0	.813	.903	.929	.882	69	66	100	78	.05	2	6	6	Cb.	Pc. c.	Pc. c.
10	.904	.787	.893	.861	83.0	88.0	77.0	80.9	90.0	75.5	14.5	146.5	56.5	74.0	1.5	N.	NNW.	W.	110	77.0	79.5	76.0	76.2	.848	.893	.886	.876	75	67	95	79	...	4	3	6	Pc. c.	Cs. b.	Pk. c.
11	.855	.750	.822	.809	83.5	86.5	82.0	82.2	90.0	77.0	13.0	152.5	62.5	75.5	1.5	N.	NW.	SW.	100	78.5	80.5	80.0	78.5	.909	.961	.998	.956	79	76	91	82	...	2	7	5	Cb.	Pc. c.	Pc. c.
12	.862	.744	.807	.804	85.5	87.5	82.5	83.4	91.0	78.0	13.0	153.0	62.0	73.5	4.5	NW.	S.	S.	51	80.0	81.0	78.5	78.6	.951	.971	.922	.948	78	74	83	78	...	4	8	0	Cs. c.	Pk. c.	b.
13	.839	.776	.819	.811	85.5	87.0	80.5	83.4	91.0	76.5	14.5	154.5	63.5	73.5	3.0	NW.	S.	S.	45	80.0	79.5	78.0	78.0	.951	.907	.927	.928	78	70	89	79	.05	3	4	2	Pk. c.	Cs. c.	Cb.
14	.873	.732	.807	.804	84.0	88.5	81.0	82.8	90.5	75.0	14.5	152.0	61.5	73.0	2.0	N.	SE.	S.	80	79.5	80.5	78.0	77.7	.948	.934	.920	.934	81	69	87	79	...	3	6	2	Cs. c.	Pc. c.	Cb.
15	.904	.792	.839	.845	84.5	88.0	81.0	82.2	89.0	75.5	13.5	151.5	62.5	74.0	1.5	NW.	NNW.	W.	115	78.5	80.0	78.0	77.5	.895	.917	.920	.911	75	69	87	77	...	2	2	2	Cb.	Cb.	Cb.
16	.906	.794	.850	.850	83.0	87.5	79.0	80.1	89.5	71.0	18.5	156.0	66.5	69.5	1.5	NW.	NNW.	SW.	155	78.0	78.0	76.0	75.0	.893	.832	.858	.861	79	64	87	76	...	4	4	0	Kb.	Pc. c.	b.
17	.889	.795	.840	.841	81.5	91.0	80.5	81.9	91.5	74.5	17.0	148.5	67.0	72.5	2.0	NW.	SE.	S.	140	73.5	78.0	78.0	74.7	.719	.784	.927	.810	67	53	89	69	...	0	0	0	b.	b.	b.
18	.854	.729	.780	.788	83.5	89.0	80.5	82.4	90.5	76.5	14.0	159.0	68.5	72.0	4.5	NW.	SE.	S.	85	75.5	79.5	79.0	77.0	.776	.830	.972	.876	67	64	93	74	.17	2	8	10	Cb.	Pk. o.	Pk. o.
19	.836	.706	.800	.781	83.5	86.5	79.0	81.0	88.0	75.0	13.0	155.5	67.5	69.5	5.5	N.	S.	S.	65	78.0	78.0	76.0	76.1	.886	.845	.858	.863	77	67	87	77	.07	8	8	6	Pc. c.	Pc. c.	Pc. c.
20	.813	.707	.792	.771	82.5	86.0	79.0	80.6	91.0	75.0	16.0	155.0	64.0	71.0	4.0	N.	S.	S.	95	77.0	80.0	76.5	76.5	.855	.944	.880	.893	77	76	89	80	...	4	6	0	Cs. c.	Pc. c.	b.
21	.813	.720	.804	.779	82.0	87.5	79.0	80.6	91.5	74.0	17.5	149.5	58.0	71.0	3.0	N.	S.	S.	50	77.0	80.0	77.0	76.4	.862	.924	.902	.896	79	71	91	80	...	2	0	0	Cb.	b.	b.
22	.801	.712	.797	.770	81.5	88.5	79.0	81.7	91.0	75.0	16.0	150.5	59.5	72.0	3.0	N.	S.	S.	50	77.0	80.0	78.0	77.0	.828	.910	.947	.895	70	68	95	77	...	2	0	0	Cb.	b.	b.
23	.820	.729	.811	.787	82.5	89.0	78.5	81.4	92.0	75.5	16.5	152.0	60.0	73.0	2.5	N.	SE.	S.	60	77.0	80.5	77.0	76.9	.855	.927	.909	.897	77	68	93	79	...	0	0	0	b.	b.	b.
24	.827	.703	.804	.778	82.5	89.5	79.0	81.6	92.5	75.5	17.0	155.0	62.5	73.5	2.0	NW.	S.	S.	90	78.0	80.0	77.0	77.1	.899	.897	.902	.899	81	65	91	79	...	2	4	2	Cs. b.	Pc. c.	Cb.
25	.821	.697	.785	.768	83.0	91.0	81.0	82.2	92.5	74.0	18.5	152.0	59.5	69.5	4.5	NW.	S.	S.	80	78.0	79.5	77.0	76.2	.893	.853	.875	.874	79	58	83	73	...	2	2	0	Cb.	Cb.	L.
26	.843	.707	.797	.782	82.0	87.5	80.5	80.9	90.0	73.5	16.5	153.5	63.5	69.5	4.0	N.	S.	S.	90	75.0	76.0	76.0	74.5	.775	.714	.838	.786	71	57	81	69	...	4	4	0	Cs. c.	Cs. c.	b.
27	.840	.744	.821	.802	81.5	87.5	81.0	81.1	90.5	74.5	16.0	152.0	61.5	67.5	7.0	NW.	NNW.	W.	110	75.0	77.0	78.0	75.6	.782	.787	.920	.829	73	60	87	73	...	4	6	8	Cs. c.	Pc. c.	Pc. o.
28	.872	.757	.834	.821	81.5	87.0	81.5	81.7	90.0	77.0	13.0	152.0	69.5	7.5	NW.	W.	S.	125	76.0	77.0	78.5	76.0	.825	.794	.936	.851	77	62	87	75	...	4	6	6	Cs. c.	Pk. c.	Pk. c.	
29	.855	.740	.824	.806	84.5	88.5	81.0	82.2	92.0	75.0	17.0	167.5	65.5	70.0	5.0	NW.	W.	S.	255	76.0	80.0	78.0	76.6	.784	.910	.920	.871	66	68	87	73	.03	3	5	8	Cc.	Pk. c.	Pk. c.
30	.871	.740	.852	.821	84.0	89.0	80.5	82.2	91.5	75.5	16.0	155.0	63.5	71.0	4.5	N.	S.	S.	95	78.0	80.0	78.0	77.2	.879	.903	.927	.903	55	66	89	76	.30	0	4	8	b.	Pk. c.	Pk. c.
31	.901	.743	.860	.835	84.0	88.0	80.0	81.9	92.0	75.5	16.5	155.0	63.0	71.5	4.0	N.	S.	S.	50																			

Highest Atmospheric Pressure 29.966 Inches.  
 Lowest Atmospheric Pressure 29.697 "  
 In the shade, { Highest Temperature 92.5 Fah.  
 { Lowest Temperature 71.0 "  
 Greatest Fall of Rain in 24 hours .62 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSIRE,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE CRIMINAL PRISON HOSPITAL OBSERVATORY, PENANG FOR THE MONTH OF APRIL, 1890.

5°24' N. Lat., 100°20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																				
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	SE.	SE.	S.	100	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%		4	4	6	Pc, c.	Pk, c.	Pk, c.
2	867	763	845	825	85.5	85.5	80.0	81.6	90.5	75.5	15.0	163.0	72.5	72.0	3.5	NNE.	N.	S.	65	77.5	78.0	77.5	76.9	877	866	904	869	79	72	87	82		6	6	3	Pk, c.	Pk, c.	C, b.
3	891	787	881	853	82.5	85.0	80.5	81.1	90.5	76.5	14.0	170.0	79.5	71.5	5.0	NE.	S.	NNW.	45	80.5	80.0	78.0	78.6	934	931	920	914	69	72	87	79		3	3	8	Pc, c.	Pk, c.	Pk, c.
4	890	773	869	844	88.5	87.0	81.0	83.4	90.0	78.0	12.0	155.0	65.0	75.5	2.5	SE.	NNW.	S.	65	80.0	77.0	77.0	77.2	944	780	875	862	76	59	83	78		3	3	5	Cs, c.	Pk, c.	Pk, c.
5	886	783	854	841	86.0	88.0	81.0	82.9	90.0	76.5	13.5	157.5	67.5	75.0	1.5	S.	E.	S.	65	78.0	81.0	78.0	76.9	879	951	940	863	75	69	93	81	1.19	3	4	10	C, c.	Pc, c.	Pk, o.
6	920	796	874	863	84.0	89.0	79.5	81.5	91.5	73.5	18.0	152.0	60.5	69.5	4.0	E.	E.	N.	65	77.0	76.5	76.0	75.4	821	772	865	804	68	60	89	77		2	4	2	C, b.	Cs, c.	C, b.
7	919	811	900	877	85.0	87.0	73.5	81.1	91.5	74.0	17.5	153.5	62.0	70.0	4.0	E.	NW.	N.	60	77.0	78.0	76.5	76.0	855	825	894	839	77	62	93	82	.10	2	10	6	C, b.	Pk, o.	Pk, c.
8	939	820	910	889	82.5	88.0	78.0	80.5	90.5	73.5	17.0	157.0	66.5	70.0	3.5	NE.	N.	S.	135	76.5	80.5	78.0	76.9	840	900	947	861	77	62	95	80	.45	5	5	10	Cs, c.	Pk, c.	Pk, o.
9	947	785	907	879	82.0	91.0	79.0	81.9	92.0	75.5	16.5	154.0	62.0	72.0	3.5	N.	N.	S.	50	80.0	80.5	77.0	77.4	958	954	916	893	79	74	95	83	.08	4	6	10	Cs, c.	Pk, c.	Pk, o.
10	923	797	900	873	85.0	87.0	78.0	81.2	90.0	75.0	15.0	156.0	66.0	72.0	3.0	N.	N.	S.	75	79.0	81.0	77.0	77.4	952	951	916	894	87	69	95	84	1.60	5	4	8	Pk, c.	C, c.	Pk, c.
11	910	780	872	854	82.0	89.0	78.0	81.1	90.5	75.5	15.0	149.0	58.5	72.0	3.5	N.	S.	E.	75	79.0	81.0	77.0	77.4	952	951	916	894	87	69	95	84	1.60	5	4	8	Pk, c.	C, c.	Pk, c.
12	855	767	846	823	79.0	88.5	78.5	80.2	90.0	75.0	15.0	151.0	61.0	72.0	3.0	E.	S.	S.	75	77.0	80.0	77.0	76.7	902	934	909	882	91	68	93	85	.05	0	4	2	Pk, o.	C, c.	C, b.
13	901	775	857	844	84.0	89.5	81.0	82.7	91.0	76.5	14.5	151.0	60.0	73.5	3.0	E.	NNE.	E.	50	77.0	80.0	77.5	76.9	834	920	897	854	72	65	85	76		2	2	0	C, b.	C, b.	b.
14	903	780	864	849	84.0	89.5	81.5	83.4	90.5	77.0	13.5	154.0	63.5	72.5	4.5	N.	ESE.	S.	45	81.0	81.5	79.0	78.6	978	988	959	921	76	74	89	80	.12	2	6	4	C, b.	Pk, c.	Pc, c.
15	876	767	849	830	84.0	89.5	80.0	81.4	91.0	75.0	16.0	155.0	64.0	73.0	2.0	NNE.	NNE.	S.	40	79.0	80.5	78.0	77.9	925	920	933	901	79	66	91	83	.71	2	6	10	Cs, b.	Pk, c.	Pk, o.
16	865	747	854	833	84.5	86.0	79.5	81.2	88.5	75.0	13.5	150.5	62.0	73.0	2.0	S.	S.	S.	60	79.0	80.0	77.0	77.2	918	944	895	886	77	76	89	83	2.05	5	6	10	Cs, c.	Pk, c.	Pk, o.
17	892	776	823	830	80.0	84.0	80.5	79.9	88.5	75.0	13.5	156.0	67.5	72.5	2.5	N.	SE.	S.	65	76.0	78.0	77.0	76.0	845	879	882	848	82	75	85	83		6	6	4	Pk, c.	Pk, c.	Cs, c.
18	831	705	820	785	87.0	91.0	80.5	83.5	92.0	75.5	16.5	152.5	60.5	72.0	3.5	E.	E.	S.	60	79.0	81.0	78.0	77.6	884	924	927	873	69	63	89	77	.18	3	5	10	Cs, c.	Cs, c.	Pk, o.
19	850	727	834	804	86.0	86.5	82.0	83.2	90.0	78.5	11.5	152.0	62.0	75.0	3.5	N.	S.	S.	75	80.0	79.0	79.0	78.4	944	907	952	911	76	70	87	79		3	4	3	C, c.	Cs, c.	Cs, c.
20	880	740	856	825	86.5	87.0	81.5	82.9	92.0	76.5	15.5	154.0	62.0	71.5	5.0	SSE.	S.	NNW.	70	79.5	80.0	78.5	78.1	914	931	936	902	72	72	87	80		3	5	2	C, c.	Pk, c.	C, b.
21	881	729	825	812	85.0	90.0	82.0	83.6	93.0	77.5	15.5	151.5	58.5	73.5	4.0	S.	E.	SE.	50	78.0	80.0	76.5	77.2	866	890	840	863	72	63	77	76		2	4	8	C, b.	Cs, c.	Pk, c.
22	841	711	823	792	88.0	88.0	81.0	83.4	90.5	76.5	14.0	155.0	64.5	73.5	3.0	E.	N.	ESE.	55	80.5	80.5	78.0	78.4	941	941	920	908	71	71	87	80	.05	3	5	10	C, c.	Pk, c.	Pk, c.
23	827	729	854	803	85.5	86.0	79.0	81.4	91.5	75.0	16.5	158.0	66.5	73.0	2.0	NNE.	NNE.	E.	60	79.0	79.5	77.5	77.4	904	920	924	888	74	74	93	83	1.65	3	10	10	Cs, c.	Pk, o.	Pk, o.
24	879	781	860	840	85.0	85.0	79.0	80.9	87.0	74.5	12.5	151.5	64.5	73.0	1.5	N.	NW.	NNW.	40	80.0	77.0	77.0	76.7	958	821	902	868	79	68	91	83	.18	6	8	0	Pk, c.	Pk, c.	Pk, o.
25	837	721	814	791	85.0	83.0	80.0	81.1	88.0	76.5	11.5	150.0	62.0	73.5	3.0	E.	NNW.	NNW.	75	79.0	77.5	77.0	77.1	911	871	889	880	76	77	87	83	.45	3	10	2	C, c.	Pk, o.	C, b.
26	827	745	803	792	82.5	85.0	80.5	80.9	88.0	75.5	12.5	140.5	52.5	73.0	2.5	N.	NW.	S.	40	79.0	79.0	77.0	77.2	945	911	882	884	85	76	85	81	.10	8	8	6	P, c.	P, c.	Pk, c.
27	827	750	810	796	86.0	88.0	81.0	80.4	90.0	76.5	13.5	147.5	57.5	74.5	2.0	SSE.	E.	N.	40	79.5	80.0	78.0	77.9	920	917	920	891	74	68	87	79		3	3	4	Cs, c.	Cs, c.	Cs, c.
28	828	742	800	790	87.0	89.0	80.5	80.6	90.0	75.0	15.0	153.5	63.5	74.0	1.0	N.	N.	S.	95	79.0	80.0	78.0	77.5	884	903	927	873	69	66	89	78		3	6	8	C, c.	Pk, c.	Pk, o.
29	841	761	814	805	85.0	89.5	81.0	82.7	91.5	75.5	16.0	157.0	65.5	74.0	1.5	S.	W.	S.	50	80.0	80.0	79.0	78.1	958	897	966	905	79	65	91	81		3	5	2	C, c.	P, c.	C, b.
30	837	748	810	798	84.5	90.0	80.5	82.7	92.0	76.0	16.0	162.0	70.0	74.0	2.0	NE.	NE.	W.	60	80.0	80.5	79.0	78.5	965	914	972	921	81	65	93	83		3	4	7	C, c.	C, c.	P, c.
31	826	739	807	791	85.0	89.0	79.0	82.0	91.0	75.0	16.0	151.5	60.5	73.5	1.5	NE.	NNE.	NE.	136	80.0	80.0	77.5	77.9	958	903	924	903	79	66	93	83	3.12	2	3	10	C, b.	Cs, c	

Highest Atmospheric Pressure 29.947 Inches  
 Lowest Atmospheric Pressure 29.705 "  
 In the Shade, { Highest Temperature 93.° Fah.  
 { Lowest Temperature 73.5 "  
 Greatest Fall of Rain in 24 hours 3.12 inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSIRE,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE CRIMINAL PRISON HOSPITAL OBSERVATORY, FOR THE MONTH OF MAY, 1890.

5°24' N. Lat., 100°20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																				
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NE.	NE.	NNE.	100	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	...	6	2	0	Pk, c.	C, b.	b.
2	857	737	800	798	82.0	90.0	80.5	81.7	91.5	74.5	17.0	151.5	60.0	72.5	2.0	NNE.	NW.	NW.	50	77.0	79.0	77.5	76.6	862	843	904	850	79	60	87	80	1.35	3	4	10	C, c	P, c.	Pk, o.
3	820	730	794	781	84.0	89.0	79.0	81.6	91.5	74.5	17.0	154.0	62.5	72.0	2.5	NE.	NE.	NNE	55	79.0	80.0	77.0	77.1	925	903	902	875	79	66	91	81	.04	10	10	6	Pk, o.	Pk, o.	Pk, c.
4	815	720	782	772	79.0	84.0	79.0	78.9	86.5	73.5	13.0	126.0	39.5	72.0	1.5	NNE.	NE.	NNE	55	77.0	78.0	77.0	76.1	902	879	902	867	91	76	91	88	...	6	4	5	Pk, c	Cs, c.	Cs, c.
5	823	727	801	784	81.0	87.0	79.5	84.0	89.5	74.0	15.5	149.5	60.0	72.5	1.5	NNE.	NNE.	NE.	50	77.5	79.0	77.0	76.7	897	884	895	874	85	69	89	85	...	3	3	3	Cs, c.	Cs, c.	Cs, c.
6	830	739	810	793	84.0	89.5	80.5	82.5	91.5	76.0	15.5	154.0	62.5	74.0	2.0	NE.	NE.	S.	55	78.0	79.0	77.5	77.4	879	850	904	869	75	61	87	79	...	3	3	3	Cs, c.	Cs, c.	P, c.
7	858	786	821	822	85.0	89.5	81.0	82.9	92.0	76.0	16.0	151.5	59.5	73.5	2.5	S.	Sby E.	Sby E.	52	79.0	81.0	78.5	78.4	911	944	943	888	76	68	89	82	.07	4	5	8	Cs, c.	Cs, c.	P, c.
8	864	790	816	823	82.5	91.0	81.0	80.1	92.0	76.0	16.0	154.0	62.0	74.0	2.0	Sby E.	SSE.	SSE.	60	79.5	81.0	79.0	78.5	967	924	966	923	87	65	91	83	...	3	3	6	C, c.	C, c.	P, c.
9	851	774	828	817	84.0	90.5	81.5	82.8	91.0	75.5	15.5	157.0	66.0	74.0	1.5	SSE.	SSE.	SSE.	25	80.0	81.0	79.0	78.7	971	931	959	931	83	65	89	84	...	3	3	0	Cs, c.	Cs, c.	b.
10	870	775	834	826	85.0	88.0	82.5	83.5	93.0	78.5	14.5	154.0	61.0	76.0	2.5	Sby W.	Sby E.	NE.	40	80.0	81.5	80.0	79.5	958	988	992	956	79	74	89	83	...	2	4	4	C, b.	C, c.	Cs, c.
11	862	764	820	815	84.0	87.5	82.0	82.6	90.5	77.0	13.5	150.5	60.0	76.0	1.0	NNE.	NE.	E.	35	80.0	81.0	78.0	78.9	971	971	906	939	83	74	83	84	...	2	6	6	C, b.	Cs, c.	P, c.
12	874	769	857	833	83.5	89.5	80.5	82.4	91.0	76.0	15.0	157.0	66.0	75.0	1.0	N.	NW.	NNE.	35	80.0	80.5	78.0	78.7	1001	920	927	931	85	66	89	84	.64	2	2	5	C, b.	C, b.	Pk, c.
13	880	777	842	833	84.0	90.0	81.0	81.9	91.5	75.5	16.0	154.0	62.5	74.5	1.0	NE.	NNE.	NW.	105	79.0	80.0	78.0	78.2	925	890	920	897	79	63	87	82	...	2	4	8	Cs, c.	Cs, c.	P, c.
14	869	770	837	825	83.5	89.5	82.0	82.7	92.0	76.0	13.0	152.5	60.5	74.5	1.5	NNW.	NW.	ESE.	85	79.0	79.5	78.5	78.0	932	873	929	897	81	63	85	81	.06	3	6	6	Cs, c.	P, c.	Pk, c.
15	900	787	850	845	84.5	85.0	79.5	80.9	87.5	74.5	13.0	139.0	51.5	72.0	2.5	NNE.	S.	S.	50	79.0	79.0	78.0	77.1	918	911	940	885	77	76	93	84	.45	6	9	5	P, c.	Pk, o.	Pk, c.
16	933	805	900	879	83.5	83.0	79.0	80.0	83.0	74.5	13.5	145.0	57.0	72.5	2.0	NE.	NW.	NNW.	55	78.0	77.5	77.0	76.6	886	871	902	873	77	77	91	86	.22	4	9	4	Cs, c.	Pk, o.	Pk, c.
17	840	761	836	812	83.5	81.0	78.5	79.6	88.0	75.5	12.5	155.0	67.0	73.5	2.0	Nby W.	NNE.	NSE.	60	78.0	78.0	77.0	76.6	886	920	909	879	77	87	93	87	.47	5	10	1	P, c.	Pk, o.	Pk, o.
18	831	752	809	794	81.0	84.5	78.5	79.5	87.0	74.5	12.5	150.0	63.0	71.5	3.0	Eby N.	Nby W.	NNW.	90	77.0	78.0	77.0	76.0	875	872	909	852	83	74	93	84	.18	5	8	8	Cs, c.	Pk, c.	Pk, c.
19	836	747	831	805	81.5	86.0	78.0	80.4	88.0	75.5	12.5	141.0	53.0	72.5	3.0	Sby N.	NNE.	NW.	20	77.0	79.0	77.0	76.6	868	898	916	870	81	72	95	84	1.12	8	5	8	Pk, c.	P, c.	P, c.
20	877	777	853	836	79.5	85.0	78.0	79.5	86.5	75.5	11.0	140.0	53.5	74.0	1.5	S.	SSE.	NW.	70	77.0	78.5	76.0	76.4	895	888	872	869	91	74	91	87	...	10	4	6	Pk, o.	Pk, c.	Pk, c.
21	851	760	841	817	84.0	87.0	77.0	80.7	88.0	75.0	13.0	152.5	64.5	74.5	5.5	NNE.	NNE.	NE.	25	78.5	78.5	75.0	76.1	888	861	843	839	74	67	91	80	1.20	4	10	8	Cs, c.	N, d.	Pk, c.
22	829	758	819	802	83.0	86.5	78.0	80.9	88.0	76.0	12.0	149.5	61.5	73.0	3.0	N.	NW.	NW.	65	77.0	78.5	76.0	76.4	848	868	872	853	75	68	91	81	...	2	3	2	C, b.	P, c.	C, b.
23	827	772	803	802	85.0	84.0	75.0	80.5	89.0	75.0	14.0	156.5	67.5	71.5	3.5	NNE.	W.	NSE.	190	78.5	79.0	76.0	76.6	875	925	872	864	76	79	91	82	.04	2	8	2	C, b.	Pk, c.	C, b.
24	831	754	803	796	87.0	89.0	80.0	83.0	90.5	76.0	14.5	149.5	59.0	72.5	3.5	ENE.	ENE.	WNW.	20	79.5	81.0	77.0	77.7	907	951	889	890	76	69	87	79	...	3	4	0	C, c.	C, c.	b.
25	824	727	789	780	86.0	89.5	82.0	83.2	92.5	75.5	17.0	154.0	61.5	73.0	2.5	NE.	NNE.	Wby N.	35	79.0	80.0	79.0	78.1	898	897	952	897	72	65	87	80	.72	3	3	4	C, c.	C, c.	P, c.
26	876	739	801	805	86.0	87.0	80.5	82.0	89.0	74.5	14.5	148.0	59.0	73.0	1.5	S.	N.	S.	60	79.0	80.5	78.0	77.7	898	954	927	903	72	74	89	83	.22	4	2	6	Pk, c.	C, b.	Pk, c.
27	908	761	812	827	85.0	90.0	80.5	82.7	91.0	75.5	15.5	152.0	61.0	73.5	2.0	SSE.	S.	S.	35	78.0	80.5	78.0	77.6	866	914	927	885	72	65	89	89	...	4	5	3	Cs, c.	P, c.	P, c.
28	849	737	801	796	87.0	82.5	79.0	80.7	88.0	74.5	13.5	145.0	57.0	71.5	3.0	Sby E.	Sby W.	SW.	20	80.0	78.5	78.0	77.1	931	922	947	889	72	83	95	85	.65	4	10	6	P, c.	Pk, o.	P, c.
29	861	747	847	818	87.0	88.0	81.0	83.4	89.5	77.5	12.0	147.0	57.5	74.5	3.0	NE.	S.	NE.	40	80.0	79.0	78.0	77.5	931	871	920	869	72	66	87	76	...	4	3	5	P, c.	C, c.	P, c.
30	869	753	849	824	85.0	87.5	80.0	81.7	90.0	74.5	15.5	147.0	57.0	72.5	2.0	NW.	Sby E.	S.	45	79.0	79.0	77.0	76.9	911	877	889	862											

Highest Atmospheric Pressure 29.933 Inches  
 Lowest Atmospheric Pressure 29.720 "  
 In the Shade, { Highest Temperature 93.0° Fah.  
 { Lowest Temperature 73.5° "  
 Greatest Fall of Rain in 24 hours 2.10 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K HAMPSHIRE,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE CRIMINAL PRISON HOSPITAL OBSERVATORY, FOR THE MONTH OF JUNE, 1890.

5°24' N. Lat., 100°20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER — REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch. es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																				
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NNE.	NNE.	NW.	85	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	.04	9 H.	15 H.	21 H.	P, c.	P, c.	P, c.
2	837	729	823	796	76.5	84.5	75.5	78.4	87.0	74.0	13.0	147.5	60.5	72.5	1.5	NbyW.	NW.	NW.	60	75.0	77.0	76.5	75.2	849	828	887	836	93	70	91	86	.12	6	6	6	P, c.	P, c.	P, c.
3	850	757	830	812	81.5	82.5	79.0	80.2	85.0	75.0	10.0	150.0	65.0	73.0	2.0	SW.	SSE.	SE.	75	78.0	78.0	77.0	76.0	872	899	902	845	74	81	91	82	.63	4	10	6	P, c.	Pk, o.	Pk, c.
4	854	745	854	815	76.0	81.0	77.5	77.1	84.0	74.0	10.0	135.5	51.5	72.0	2.0	E.	SbyE	NW.	20	74.0	77.0	76.5	74.7	814	875	901	832	91	83	95	89	...	10	8	8	Pk, o.	Pk, c.	Pk, c.
5	819	734	774	776	82.0	86.5	80.0	80.9	89.0	75.0	14.0	148.0	59.0	71.0	4.0	NE.	NNE.	NW.	20	77.0	78.0	76.5	78.0	862	845	867	835	79	67	85	80	.38	5	6	6	P, c.	P, c.	P, c.
6	775	720	830	775	87.0	83.5	77.5	82.0	90.0	75.0	15.0	145.0	55.0	71.5	3.5	NE.	SbyE.	NW.	60	80.5	80.5	76.0	77.5	951	934	879	888	74	69	93	81	.70	4	4	10	Cs, c.	Cs, c.	Pk, d.
7	785	713	775	758	87.0	83.0	79.5	82.5	90.5	75.5	15.0	152.0	61.5	73.5	2.0	S.	NNE.	NW.	110	80.0	80.0	77.0	77.5	931	917	895	881	72	69	89	79	.25	3	5	3	Cs, c.	P, c.	P, c.
8	818	723	782	774	80.0	86.0	79.0	80.0	87.0	75.0	12.0	137.0	50.0	72.5	2.5	NW.	NW.	NW.	55	75.0	78.0	76.5	76.0	894	853	863	844	91	68	89	83	3.55	8	7	5	Pk, d.	P, c.	P, c.
9	810	730	797	779	78.0	81.0	75.5	77.0	85.5	73.5	12.0	129.0	41.5	71.5	2.0	NW.	NW.	NW.	105	76.5	76.5	75.0	75.0	858	895	902	855	93	80	98	91	.11	10	10	7	Pk, d.	Pk, o.	Pk, c.
10	796	719	800	772	79.0	84.5	79.0	79.0	87.0	73.5	13.5	146.0	59.0	72.5	1.0	E. n. by N	W.	SbyE.	60	76.0	78.5	77.0	75.9	879	866	843	830	75	72	91	81	.17	6	4	4	Pk, c.	P, c.	P, c.
11	805	724	802	777	85.0	85.0	79.0	81.2	86.0	76.0	10.0	140.0	54.0	73.5	2.5	SbyE.	NNW.	NW.	25	79.0	79.0	77.0	77.1	911	911	902	904	76	76	91	83	.28	3	4	6	Cs, c.	P, c.	Pk, c.
12	820	766	840	809	84.0	85.0	77.0	80.1	85.0	74.5	10.5	146.0	61.0	70.5	4.0	NW.	NE.	NW.	65	73.0	78.0	75.0	75.6	879	866	843	830	75	72	91	81	...	4	4	4	Cs, c.	Cs, c.	Cs, c.
13	881	772	845	834	84.0	84.0	73.0	80.1	85.5	74.5	11.0	145.0	62.5	71.0	3.5	SSE.	SSE.	SSW.	25	77.5	77.5	74.5	75.5	856	856	808	823	74	73	84	80	.14	6	5	5	P, c.	P, c.	P, c.
14	904	826	858	832	77.0	77.0	74.5	75.6	81.5	74.0	07.5	103.5	36.5	72.0	2.0	SbyW	SbyE.	NW.	30	75.0	75.0	74.0	74.0	843	843	834	810	91	91	98	92	...	10	10	10	P, r.	Pk, d.	Pk, o.
15	897	800	850	849	80.0	82.5	80.0	79.4	84.5	75.0	09.5	121.0	36.5	72.5	2.5	NE.	NNE.	nwbyN	60	77.0	78.0	77.0	76.0	889	899	889	856	87	81	87	85	...	5	7	4	Cs, c.	P, c.	C, c.
16	886	791	842	811	84.0	86.0	79.5	81.4	89.0	76.0	13.0	149.0	60.0	74.0	2.0	NbyE.	NbyW.	NW.	60	78.0	78.5	77.0	76.5	879	875	895	850	75	70	89	79	...	4	3	0	Cs, c.	Cs, c.	b.
17	811	749	804	788	85.0	85.5	80.0	81.1	85.0	74.0	11.0	151.5	63.5	72.0	2.5	S.	SSE.	SbyE.	35	77.0	79.0	77.0	76.0	821	904	839	833	68	74	87	79	...	3	4	5	Cs, c.	Cs, c.	P, c.
18	812	754	800	789	84.0	89.0	80.5	81.9	91.0	74.0	17.0	145.0	54.0	72.0	2.0	S ½ E.	SbyE.	SSE.	35	79.0	80.0	78.0	77.0	925	903	927	869	79	66	89	80	...	3	0	0	Cs, c.	b.	b.
19	803	749	804	785	85.0	87.5	81.0	82.1	90.0	75.0	15.0	148.0	55.0	73.5	1.5	E.	S.	SbyW.	25	79.0	79.5	78.0	77.1	911	900	920	879	76	65	87	80	...	2	0	0	C, b.	b.	b.
20	849	811	816	825	82.0	87.0	81.0	80.9	89.0	73.5	15.5	143.5	54.5	72.0	1.5	E.	SSE.	NW.	15	78.0	75.5	78.0	76.5	906	861	920	855	83	67	87	82	...	4	4	0	Cs, c.	Cs, c.	b.
21	869	814	854	845	85.0	89.0	78.5	81.9	90.0	75.0	15.0	146.5	56.5	74.0	1.0	NNE.	S.	NW.	65	79.0	80.0	75.5	77.2	911	903	843	866	76	66	86	80	...	2	4	3	C, b.	P, c.	C, c.
22	876	820	854	850	86.0	83.0	81.0	82.2	90.0	74.5	15.5	147.5	57.5	72.5	2.0	NE.	SbyE.	NE.	25	79.5	80.0	75.5	77.5	914	917	943	887	77	69	89	81	...	2	5	5	C, b.	Cs, c.	Cs, c.
23	844	799	831	825	83.5	87.5	78.5	81.1	90.0	75.0	15.0	150.0	60.0	71.0	4.0	NE.	SSE.	NW.	45	78.0	78.0	75.0	76.0	902	832	822	835	77	64	84	79	...	2	3	3	C, b.	Cs, c.	Cs, c.
24	839	796	839	825	87.0	86.5	78.5	81.6	88.5	74.5	14.0	143.5	55.0	71.5	3.0	NW.	NW.	NW.	25	80.5	78.0	76.5	76.9	961	845	887	866	74	67	91	80	...	4	5	6	Cs, c.	P, c.	P, c.
25	880	811	891	861	86.0	85.0	79.0	81.6	88.5	74.0	14.5	145.5	57.0	69.5	4.5	NNE.	SSE.	NE.	95	79.0	78.5	76.0	76.0	898	888	858	813	72	74	87	79	...	3	7	6	Cs, c.	P, c.	P, c.
26	866	747	841	818	86.0	88.0	78.5	81.4	90.0	73.0	17.0	152.0	62.0	69.0	4.0	NNE.	SSE.	NE.	75	77.0	79.0	74.5	75.4	807	871	801	803	65	66	82	76	...	2	2	0	C, b.	C, b.	b.
27	830	755	796	794	86.5	88.0	79.0	82.0	89.5	74.5	15.0	149.0	59.5	70.5	4.0	WN.	SE.	NNW.	75	79.5	79.5	76.5	76.9	914	893	880	860	72	67	89	79	...	4	2	4	P, c.	C, b.	Cs, c.
28	823	763	830	805	85.0	83.0	80.0	82.1	89.5	74.5	15.0	144.0	54.5	71.5	3.0	NNW.	NNE.	S.	70	80.0	80.0	76.0	76.7	944	917	845	855	76	69	82	78	...	2	3	6	C, b.	Cs, c.	P, c.
29	867	784	841	831	84.5	80.0	79.5	89.5	87.0	74.5	12.5	140.0	53.0	72.0	2.5	NE.	NE.	E.	60	78.5	77.0	76.0	75.7	895	889	852	842	75	87	85	83	.03	4	10	10	P, c.	Pk, o.	Pk, o.
30	863	771	823	819	82.0	86.0	76.5	79.2	86.7	72.5	14.0	145.0	58.5	69.5	3.0	SSE.	NNE.	E.	175	78.0	78.0	75.0	75.4	906	852	849	832	83	68	93	83	...	6	6	4	P, c.	P, c.	P, c.
31	858	766	815	813	82.0	89.0	79.5	81.0	91.0	73.5	17.5	150.0	59.0	68.5	5.0	NE.	NE.	NNW.	65	78.0	79.0	76.0	76.1															

Highest Atmospheric Pressure 29.904 Inches  
 Lowest Atmospheric Pressure 29.713 "  
 In the Shade, { Highest Temperature 91.° Fah.  
 { Lowest Temperature 72.5° "  
 Greatest Fall of Rain in 24 hours 3.55 inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSHIRE,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE CRIMINAL PRISON HOSPITAL OBSERVATORY, PENANG, FOR THE MONTH OF JULY, 1890.

5° 20' N. Lat., 100° 20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER — REDUCED TO 32°				TEMPERATURE OF AIR.						TEMPERATURE OF RADIATION.				WIND.		TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.						
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Velo- city.  Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.		15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NW.	NNE.	NW.	50	79.0	79.5	78.0	77.2	.925	.900	.940	.878	79	69	93	80	...	2	3	3	C, b.	Cs, c.	Cs, c.	
2	.872	.780	.830	.827	84.5	86.0	79.0	81.2	91.0	75.5	15.5	156.0	65.0	71.0	4.5	NW.	NW.	NW.	70	79.0	80.0	77.0	76.9	.925	.944	.902	.872	79	76	91	81	...	2	0	4	C, b.	b.	Cs, c.	
3	.878	.769	.841	.829	81.5	88.5	76.5	80.4	91.0	75.0	16.0	152.5	61.5	71.0	4.0	NE.	WNW.	NW.	105	78.5	80.0	75.0	76.1	.936	.910	.849	.856	87	68	93	82	...	2	3	6	C, b.	C, c.	P, c.	
4	.890	.784	.858	.844	81.0	82.0	74.5	77.6	87.0	73.0	14.0	120.0	33.0	71.0	2.0	NW.	SSW.	ENE.	90	77.0	77.0	73.0	74.4	.875	.862	.793	.811	83	79	93	88	1.50	8	10	10	Pk, c.	Pk, o.	Pk, o.	
5	.874	.762	.861	.832	82.0	84.0	76.5	78.5	89.0	71.5	17.5	145.0	56.0	69.5	2.0	NE.	SW.	SSE.	45	75.0	76.0	74.5	73.6	.775	.791	.829	.768	71	68	91	79	1.50	10	6	6	Pk, o.	P, c.	P, c.	
6	.889	.780	.884	.851	76.5	82.5	79.0	78.0	86.5	74.0	12.5	124.0	37.5	70.1	4.0	SbyE.	S.	SbyE.	75	75.0	75.5	75.0	74.4	.849	.789	.787	.796	9	71	82	84	...	10	9	4	P, o.	P, c.	P, c.	
7	.860	.774	.871	.835	83.0	89.0	79.0	81.2	90.0	74.0	16.0	143.0	53.0	70.1	4.0	NE.	S.	SSW.	25	77.0	78.0	74.5	75.0	.848	.811	.794	.783	75	59	80	74	...	0	2	0	b.	C, b.	b.	
8	.924	.813	.870	.869	83.0	86.0	77.0	79.9	88.0	73.5	14.5	150.5	62.5	70.5	3.0	NW.	NNE.	SW.	70	76.0	77.0	75.0	74.4	.804	.867	.843	.740	71	65	91	77	...	3	0	0	P, c.	b.	b.	
9	.927	.821	.862	.870	82.0	87.0	79.0	80.5	89.5	74.0	15.5	151.0	61.5	71.5	2.5	NE.	SW.	NW.	30	77.0	77.5	75.5	75.5	.862	.845	.837	.831	79	67	84	80	...	2	0	0	C, b.	C, b.	b.	
10	.901	.816	.871	.862	84.5	86.5	79.5	80.9	88.5	73.0	15.5	145.0	56.5	70.0	3.0	NW.	S.	SSW.	95	77.5	78.0	75.0	75.4	.850	.975	.809	.841	72	79	80	80	...	2	0	0	C, b.	b.	b.	
11	.882	.773	.866	.840	81.5	85.5	78.5	79.9	85.0	74.0	14.0	152.0	64.0	72.5	1.5	SE.	SE.	NW.	75	76.5	80.5	76.5	76.2	.846	.826	.887	.824	78	73	91	82	.32	4	8	4	Cs, c.	Pk, d.	P, c.	
12	.865	.775	.824	.821	79.0	83.0	77.5	80.2	88.0	73.5	14.5	145.0	57.0	71.5	2.0	NW.	NNE.	NE.	35	75.5	76.5	75.0	74.4	.837	.834	.839	.804	84	72	89	80	.30	8	4	4	Pk, c.	P, c.	P, c.	
13	.862	.764	.839	.821	80.0	84.0	76.5	78.2	87.0	72.5	14.5	147.0	60.0	71.0	1.5	NNE.	NNE.	NNW.	120	76.5	77.0	75.0	74.6	.867	.807	.849	.806	85	65	93	77	.08	8	6	3	Pk, c.	P, c.	P, c.	
14	.857	.759	.842	.819	82.0	86.0	77.5	79.5	86.5	72.5	14.0	140.0	53.5	71.0	1.5	NW.	NW.	NW.	135	76.5	77.0	76.0	72.2	.840	.828	.879	.807	77	70	93	81	.03	6	4	4	Pk, d.	P, c.	P, c.	
15	.850	.748	.837	.812	79.0	84.5	77.0	78.4	86.0	73.0	13.0	129.0	43.0	70.5	2.5	NE.	NNE.	SE.	75	76.0	77.0	75.5	74.6	.858	.843	.864	.824	87	70	93	85	.48	10	10	8	P, c.	Pk, d.	Pk, c.	
16	.830	.720	.817	.789	82.5	85.0	77.0	79.4	86.5	73.0	13.5	140.5	54.0	71.0	2.0	E.	NE.	NW.	60	77.5	77.5	76.0	75.4	.877	.764	.886	.810	79	61	98	81	.85	6	10	6	Cs, c.	Pk, d.	Pk, c.	
17	.783	.717	.764	.755	82.5	86.0	80.0	81.5	87.5	76.0	11.5	144.0	56.5	72.5	3.5	SE.	SSE.	SE.	40	76.5	76.0	76.0	75.4	.833	.852	.845	.823	75	68	82	77	...	4	6	4	Cs, c.	P, c.	Cs, c.	
18	.791	.727	.829	.785	83.0	86.0	78.0	80.8	87.0	75.5	11.5	146.0	59.0	72.5	3.0	NW.	NW.	NW.	45	77.5	78.0	76.0	75.5	.871	.866	.872	.839	77	72	91	81	...	3	6	6	P, c.	Cs, c.	Cs, c.	
19	.848	.730	.830	.803	82.0	85.0	78.0	79.9	86.5	74.5	12.0	133.5	47.0	72.0	2.5	S.	S.	SE.	35	77.0	78.0	76.0	75.9	.862	.857	.829	.812	79	73	86	80	...	6	6	6	P, c.	P, c.	P, c.	
20	.853	.737	.832	.807	82.0	84.0	79.0	80.0	89.0	75.0	14.0	138.0	49.0	71.5	3.5	NE.	NNW.	NE.	35	76.5	77.5	76.5	75.7	.840	.830	.880	.829	77	66	89	81	...	6	6	6	Pk, c.	P, c.	P, c.	
21	.829	.724	.831	.795	83.0	86.0	78.0	80.5	87.0	75.0	12.0	154.0	67.0	73.5	1.5	SE.	SE.	SW.	65	77.0	77.5	76.5	75.7	.848	.847	.894	.833	75	78	93	81	.86	8	3	10	Pk, o.	Cs, c.	Pk, d.	
22	.861	.815	.844	.840	78.0	81.5	76.0	76.4	84.5	70.0	14.5	146.0	61.5	65.5	4.5	SE.	S.	SE.	40	74.5	76.5	74.0	73.1	.808	.861	.814	.771	84	67	91	82	...	10	10	7	Cs, c.	Pk, o.	Pk, c.	
23	.880	.805	.856	.847	84.5	87.0	80.5	81.6	89.0	74.5	14.5	146.5	57.5	70.5	4.0	SE.	SE.	SE.	35	77.5	78.5	77.5	78.7	.850	.882	.911	.953	72	72	89	85	...	3	3	0	K, c.	C, c.	b.	
24	.897	.810	.860	.856	85.0	85.5	78.0	80.0	87.5	71.5	16.0	135.0	47.5	68.5	3.0	SE.	NNE.	S.	60	78.5	78.5	76.0	75.6	.888	.806	.872	.815	74	68	91	80	.33	4	10	10	Pk, c.	Pk, d.	Pk, o.	
25	.905	.820	.900	.875	79.0	84.5	79.5	79.2	87.5	74.0	13.5	153.0	67.5	70.5	3.5	S.	SSW.	NW.	70	74.0	76.5	76.0	74.2	.774	.893	.852	.804	78	79	85	81	.50	8	3	4	Pk, d.	Cs, c.	Cs, c.	
26	.912	.825	.907	.881	81.0	83.0	77.0	78.5	88.0	73.0	15.0	150.5	62.5	70.0	3.0	SE.	SE.	NW.	50	78.0	78.0	75.0	75.5	.920	.856	.801	.827	87	73	86	84	.37	8	6	4	P, c.	Pk, c.	P, c.	
27	.920	.823	.910	.884	80.5	84.0	77.0	79.1	88.0	75.0	13.0	147.0	59.0	72.0	3.0	NE.	S.	NW.	45	77.0	77.5	74.0	75.0	.882	.771	.843	.807	85	63	91	80	...	4	3	4	P, c.	Cs, c.	Cs, c.	
28	.892	.809	.887	.863	80.0	85.5	79.0	79.4	87.5	73.0	14.5	136.0	48.5	70.5	2.5	SE.	NE.	NW.	65	75.5	76.0	75.0	74.4	.824	.748	.816	.780	80	64	82	79	2.56	6	10	8	Pk, d.	Pk, o.	Pk, d.	
29	.904	.814	.893	.870	78.0	84.0	77.5	77.9	86.0	72.0	14.0	120.0	34.0	69.5	2.5	SE.	SE.	NW.	150	75.0	75.0	75.0	73.9	.829	.790	.839	.796	86	71	89	84	6.22	10	10	10	Pk, o.	Pk, o.	Pk, r.	
30	.911	.820	.900	.877	78.5	82.5	77.0	77.5	84.5	72.0	12.5	124.0	39.5	69.5	2.5	SE.	NE.	NE.	85	74.5	75.5	75.0	73.9	.802	.796	.843	.792	82	73	91	84	.22	10	8	10	Pk, o.	Pk, c.	Pk, o.	
31	.900	.811	.894	.868	79.0	82.0	77.0	77.6																															

Highest Atmospheric Pressure 29.927 Inches  
 Lowest Atmospheric Pressure 29.717 "  
 In the Shade { Highest Temperature 91.° Fah.  
 Lowest Temperature 70.° "  
 Greatest Fall of Rain in 24 hours 6.22 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSHIRE, M.B.,  
 Colonial Surgeon.



**METEOROLOGICAL RESULTS OF THE PENANG, OBSERVATORY, FOR THE MONTH OF AUGUST, 1890.**  
 5° 24' N. Lat., 100° 20' E. Long. Height of Bar Cistern above Sea Level, 20 ft.

DATE	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			Velo- city.  Total Miles.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMIDITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.						
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.				9 H.	15 H.	21 H.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.		15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																								
1	29.872	29.781	29.861	.838	79.0	81.0	77.0	77.1	84.5	71.5	13.0	121.0	36.5	69.5	2.0	E.	SE.	NE.	75.0	76.5	77.0	76.0	74.9	.880	.875	.858	.843	.89	.83	.87	.91	...	6	10	8	Pk, c.	Pk, c.	Pk, c.				
2	.859	.774	.850	.828	82.0	83.5	77.0	78.5	86.0	71.5	14.5	139.5	53.5	69.5	2.0	NE.	NE.	SE.	45.0	76.5	77.0	76.5	75.0	.840	.841	.887	.822	.77	.73	.91	.84	.77	6	6	8	P, c.	P, c.	Pk, c.				
3	.834	.804	.843	.829	83.5	80.0	76.5	78.4	86.0	73.5	12.5	149.0	63.0	70.0	3.5	E.	S.	SE.	40.0	76.5	76.0	74.0	74.2	.804	.845	.807	.787	.71	.82	.88	.82	...	4	8	6	Cs, c.	Pk, c.	Pk, c.				
4	.855	.775	.853	.828	81.0	85.0	78.5	79.6	86.0	74.0	12.0	144.0	58.0	72.0	2.0	SE.	SE.	S.	35.0	75.5	77.5	75.5	75.0	.810	.828	.837	.809	.76	.70	.84	.80	.28	8	6	6	Pk, c.	P, c.	P, c.				
5	.850	.780	.860	.830	81.0	83.5	77.5	78.6	85.5	72.5	13.0	139.0	53.5	69.0	3.5	NE.	S.	S.	35.0	74.5	75.5	74.5	73.9	.768	.776	.816	.768	.72	.67	.86	.80	...	6	4	6	P, c.	P, c.	P, c.				
6	.864	.791	.854	.836	82.5	85.0	78.0	79.6	87.5	73.0	14.5	147.0	59.5	70.5	2.5	ES.	SE.	S.	45.0	76.0	77.0	76.0	75.0	.811	.821	.872	.809	.72	.68	.91	.80	...	3	4	4	C, c.	C, b.	Cs, c.				
7	.878	.784	.863	.842	82.0	86.5	77.5	79.6	88.0	72.5	15.5	156.0	68.0	70.0	2.5	SE.	S.	S.	125.0	75.5	77.0	75.5	74.6	.797	.801	.858	.774	.73	.63	.91	.78	...	4	4	2	Cs, c.	Cs, c.	C, b.				
8	.870	.789	.869	.839	83.0	87.5	77.5	80.1	88.0	72.5	15.5	154.0	66.0	70.0	2.5	SE.	SE.	S.	65.0	76.0	78.0	75.5	75.1	.804	.832	.858	.802	.71	.64	.91	.78	...	0	0	2	b.	b.	C, b.				
9	.808	.838	.810	.818	83.0	88.0	79.0	83.3	89.0	75.5	14.5	143.0	67.5	71.0	4.5	SE.	SE.	S.	45.0	76.0	80.0	77.0	77.6	.804	.917	.902	.871	.71	.69	.91	.77	...	2	6	7	C, b.	Pk, c.	Pc, c.				
10	.855	.810	.820	.825	85.5	89.0	80.0	84.8	90.5	74.0	16.5	149.0	58.5	71.0	3.0	NW.	NW.	NW.	65.0	79.0	80.0	78.0	79.0	.904	.903	.933	.918	.76	.66	.91	.77	.15	4	6	8	C, b.	Ck, c. c.	Pc, c.				
11	.859	.800	.750	.803	82.5	79.0	78.0	79.8	87.5	74.5	13.0	152.0	68.5	74.0	0.5	N.	NW.	NW.	115.0	76.5	76.5	76.0	76.3	.833	.872	.872	.880	.75	.89	.91	.91	.25	5	8	10	K, c.	Pc, c.	Pk, o.				
12	.873	.810	.840	.841	79.0	83.0	78.0	80.0	84.5	74.0	10.5	157.0	72.5	71.0	3.0	NE.	NW.	NW.	70.0	75.5	79.0	76.0	76.5	.824	.938	.938	.874	.80	.83	.91	.87	.05	3	7	10	Cs, c.	Ck, c. c.	Pk, o.				
13	.809	.800	.804	.804	84.0	85.0	79.5	82.8	86.0	74.5	11.5	148.0	62.0	72.5	2.0	NE.	SE.	SE.	55.0	77.5	79.0	77.0	77.8	.841	.911	.895	.877	.73	.76	.89	.79	1.04	5	8	10	Cs, c.	O, r.	O, r.				
14	.795	.732	.760	.762	82.5	84.5	78.0	81.6	86.0	73.5	12.5	146.0	60.0	72.0	1.5	NE.	SW.	S.	70.0	77.5	77.5	76.0	77.0	.870	.834	.872	.868	.79	.72	.91	.81.0	1.10	10	8	10	O, r.	Ck, c.	O, r.				
15	.870	.819	.788	.825	78.5	85.0	78.5	80.6	87.0	73.5	13.5	145.0	58.0	72.5	1.0	E.	EN.	EN.	30.0	75.0	79.0	75.0	76.3	.794	.911	.822	.845	.84	.76	.84	.82	.25	10	8	10	O, r.	Ck, c.	Cs, b.				
16	.937	.886	.847	.890	77.0	83.5	77.5	79.3	85.5	73.5	12.0	138.0	52.5	72.5	1.0	E.	ES.	NW.	0	76.0	78.0	76.0	76.6	.838	.886	.879	.865	.80	.77	.93	.89	...	10	4	4	Pk, c.	Cs, b.	Cs, b.				
17	.913	.801	.813	.842	83.0	83.0	77.5	81.1	84.5	73.5	11.0	140.0	55.5	73.0	0.5	SE.	S.	S.	45.0	78.5	77.5	76.0	73.3	.901	.971	.879	.712	.77	.77	.93	.68	.09	10	7	3	Pc, c.	Pk, c.	O, r.				
18	.901	.803	.830	.844	80.5	84.0	78.0	80.8	85.5	74.5	11.0	130.0	64.5	72.0	2.5	NE.	NE.	SE.	30.0	76.0	77.0	76.0	76.3	.838	.834	.872	.838	.80	.82	.91	.80	.07	8	7	10	Cs, b.	Pk, c.	O, r.				
19	.881	.805	.800	.825	79.0	82.5	79.0	80.0	87.5	73.5	14.0	157.0	69.5	73.0	0.5	NE.	NE.	NW.	45.0	78.0	76.5	76.0	76.8	.947	.833	.858	.858	.95	.75	.87	.87	...	6	6	9	Ck, b.	Ck, c.	Pk, o.				
20	.923	.833	.913	.896	81.0	84.5	78.0	81.3	86.5	74.5	12.0	148.0	61.5	71.5	3.0	SE.	NW.	NW.	75.0	76.0	77.5	76.0	76.2	.831	.834	.872	.831	.78	.72	.91	.78	.04	3	8	10	Ck, b.	Pc, c.	Pc, c.				
21	.905	.858	.891	.884	78.0	82.5	78.5	79.6	85.0	73.5	11.5	132.0	47.0	71.0	2.5	N.	NW.	NW.	45.0	72.5	76.0	76.0	74.8	.714	.811	.865	.795	.72	.73	.89	.80	...	8	7	6	Ck, c.	Pk, c.	Pc, c.				
22	.902	.821	.889	.870	83.0	83.5	78.0	81.5	86.5	73.5	13.0	152.0	65.5	72.5	1.0	N.	NW.	NW.	60.0	77.5	77.0	75.0	75.8	.870	.841	.829	.795	.77	.73	.86	.76	1.50	7	9	8	Pc, c.	Pk, c.	Pc, c.				
23	.888	.833	.858	.859	80.5	82.0	79.5	80.6	87.0	73.5	13.5	155.0	68.0	72.0	1.5	EN.	SE.	SW.	40.0	76.5	78.0	78.0	76.6	.838	.906	.940	.858	.95	.91	.75	.87	1.30	8	10	10	Pc, c.	Cs, c.	Pc, c.				
24	.845	.777	.886	.836	82.5	78.0	77.0	79.1	84.0	72.0	12.0	112.0	28.0	71.0	1.0	E.	S.	S.	25.0	75.0	77.0	75.0	76.1	.916	.843	.833	.858	.95	.91	.75	.87	1.60	8	7	10	C, b.	K, b.	O, d.				
25	.851	.756	.819	.808	81.5	83.5	79.0	81.3	86.0	74.5	12.5	145.0	59.0	73.5	1.0	SE.	S.	S.	80.0	75.5	76.5	76.5	76.0	.782	.819	.880	.827	.73	.79	.89	.80	.04	3	4	10	Cs, b.	Ck, c.	Pc, c.				
26	.865	.769	.860	.831	82.5	86.5	79.0	82.6	87.5	76.5	11.0	145.0	57.5	74.5	2.0	S.	SE.	S.	75.0	76.0	76.5	77.0	76.3	.790	.781	.902	.824	.71	.61	.91	.74	...	2	6	7	Ck, b.	Pc, c.	Cs, b.				
27	.856	.761	.865	.827	83.5	87.0	79.5	83.3	89.0	76.0	13.0	148.0	59.0	74.5	1.5	S.	SE.	WS.	75.0	76.0	79.0	75.5	76.8	.804	.884	.831	.839	.71	.69	.82	.74	.15	4	6	4	Ck, b.	Pc, c.	Cs, b.				
28	.874	.761	.836	.823	82.5	83.5	80.0	82.0	89.0	74.5	14.5	149.0	60.0	72.0	2.0	S.	SE.	NW.	75.0	78.0	78.0	76.5	77.5	.899	.886	.852	.819	.81	.77	.85	.80	.12	4	8	8	Pc, c.	Ck, b.	Ck, c.				
29	.899	.809	.865	.857	83.5	82.0	79.0	81.5	85.5	73.0	12.5	146.0	60.5	72.5	0.5	NE.	S.	S.	35.0	75.0	75.0	75.0	75.0	.755	.775	.843	.791	.62	.71	.91	.75	...	2	5	7	Cs, b.	Cs, b.	Ck, c.				
30	.893	.766	.869	.836	85.0	84.0</																																				

Highest Atmospheric Pressure 29.937 Inches.  
 Lowest Atmospheric Pressure 29.732,,  
 In the shade, { Highest Temperature 90.5 Fah.  
 { Lowest Temperature 71.5 "  
 Greatest Fall of Rain in 24 hours 1.60 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSHIRE, M.B.,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE PENANG PRISON HOSPITAL OBSERVATORY, FOR THE MONTH OF SEPTEMBER, 1890.

5° 24' N. Lat., 100° 20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER—REDUCE TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	Before 9 A.M	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	S.	E½N.	NW.	40	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	...	2	7	10	K, b.	Pk, c.	O, r.	
2	29.894	29.789	29.981	29.888	83.0	86.5	79.5	83.0	88.5	75.5	13.0	148.0	59.5	74.5	1.0	NE.	S.	S½E.	120	76.0	76.5	76.5	76.3	.811	.846	.880	.845	73	78	89	80	...	4	4	8	Ck, b.	Pc, c.	Pk, c.	
3	.908	.821	.877	.868	80.5	81.5	79.0	80.3	86.0	74.5	11.5	147.0	61.0	73.0	1.5	SE.	S.	Sby E.	50	76.0	76.0	79.5	77.1	.818	.791	.974	.861	75	68	89	77	.07	5	4	10	Cs, b.	Cs, b.	O, d.	
4	.873	.798	.836	.835	82.0	84.0	82.0	82.6	87.5	75.0	12.5	155.0	67.5	74.0	1.0	SE.	S½E.	S.	95	77.0	78.0	78.5	77.8	.822	.866	.928	.892	85	72	85	80	...	8	5	8	Pc, c.	Ck, b.	Pc, c.	
5	.846	.743	.783	.790	80.5	85.0	82.0	82.5	87.5	74.0	13.5	150.0	62.5	71.5	2.0	E½S.	S.	SW.	65	79.5	79.0	77.0	78.5	.933	.898	.862	.897	77	72	79	76	...	6	4	3	Ck, b.	Cs, b.	C, b.	
6	.808	.707	.798	.771	85.0	86.0	82.0	84.3	89.5	75.5	14.0	151.0	61.5	71.5	4.0	NW.	N½W.	NW.	90	77.5	77.0	77.5	77.3	.897	.834	.897	.876	85	72	85	80	0.12	8	7	3	Pc, c.	Pk, c.	C, b.	
7	.795	.716	.785	.765	81.0	84.0	81.0	82.0	86.0	75.0	11.0	150.0	64.0	72.5	2.5	SE.	NW.	N.	90	78.0	77.0	77.5	77.5	.893	.836	.897	.875	79	66	85	76	...	4	5	4	Cs, b.	Ck, c.	Cs, b.	
8	.827	.799	.826	.817	83.0	86.0	81.0	83.0	89.5	75.0	14.5	152.0	62.5	73.5	1.5	NE.	NW.	NW.	90	76.5	79.0	76.5	77.3	.860	.863	.873	.882	82	76	87	81	...	8	8	6	Ck, c.	Pk, c.	Pk, c.	
9	.802	.801	.900	.834	80.5	85.0	79.5	81.6	88.0	73.0	15.0	145.0	57.0	68.5	4.5	NW.	NW.	NW.	75	77.5	79.0	75.5	77.3	.863	.891	.824	.859	75	70	80	78	...	3	7	2	C, b.	Ck, c.	C, b.	
10	.817	.705	.764	.795	83.5	86.5	80.0	83.6	89.5	72.5	17.0	149.0	59.5	70.0	2.5	N½E.	NW.	NW.	90	77.0	79.5	74.5	77.0	.834	.933	.780	.848	72	77	80	76	...	5	7	2	Ck, c.	Pk, c.	C, b.	
11	.833	.739	.820	.797	84.0	85.0	79.0	82.0	89.0	73.5	15.5	148.0	59.0	71.0	2.5	E½N.	SE.	S½E.	80	78.0	79.0	78.5	78.5	.879	.838	.942	.886	75	83	89	82	.05	6	10	4	Ck, c.	O, d.	Pk, o.	
12	.831	.844	.833	.836	84.0	83.0	81.0	82.0	88.5	75.5	13.0	154.0	61.5	70.0	5.5	S.	S.	S.	85	78.0	78.0	78.0	78.0	.886	.893	.923	.900	77	79	87	81	...	6	8	10	Ck, c.	Pk, c.	Pc, c.	
13	.858	.851	.880	.863	83.5	83.0	81.0	82.5	88.5	75.5	13.0	154.0	65.5	73.0	2.5	E.	SW.	S.	90	78.5	75.0	76.0	76.5	.914	.756	.858	.842	81	62	87	76	1.50	7	8	10	Cs, b.	Cs, b.	Pk, b.	
14	.882	.807	.880	.856	83.0	85.0	79.0	82.3	88.5	72.0	16.5	165.0	66.5	70.5	1.5	S½W.	NE.	NE	95	75.0	76.5	76.0	75.5	.849	.853	.872	.858	93	80	91	88	0.10	7	8	9	O, r.	Pk, c.	Pk, c.	
15	.920	.890	.910	.906	76.5	81.0	78.0	78.5	88.5	73.5	15.0	122.0	33.5	71.0	2.5	E½N.	E½N.	NE.	50	74.0	76.0	74.5	74.8	.780	.830	.809	.806	80	78	84	80	0.15	7	8	10	Pc, c.	O, d.	O, r.	
16	.863	.793	.885	.847	78.5	81.0	78.0	79.1	86.0	72.5	13.5	146.0	60.0	70.0	2.5	NE.	S½E.	S½E.	95	74.5	77.0	75.5	75.6	.789	.902	.854	.848	78	91	89	86	...	7	8	8	Pc, c.	Pk, c.	Pc, c.	
17	.871	.786	.949	.868	79.5	79.0	78.0	78.8	84.5	73.0	11.5	140.0	55.5	71.0	2.0	NE.	NW.	NW.	80	77.0	78.0	76.5	77.5	.834	.893	.867	.864	72	79	85	78	0.52	3	6	7	K, b.	Ck, b.	Pk, c.	
18	.889	.883	.874	.848	84.0	83.0	80.0	82.3	88.5	75.0	13.5	153.0	64.5	71.0	4.0	NW.	N.	NW.	100	75.5	75.5	77.0	76.0	.810	.790	.902	.834	76	69	91	78	0.0	7	7	6	Pc, c.	Pk, c.	Pc, c.	
19	.900	.823	.875	.866	81.0	83.0	79.0	81.0	83.5	74.5	12.1	144.0	57.5	72.0	2.5	N½W.	N.	NW.	75	78.0	79.0	77.5	77.3	.879	.938	.910	.909	76	87	89	82	0.40	6	7	10	Pc, c.	Pc, c.	Pk, r.	
20	.873	.770	.812	.818	84.0	83.0	80.0	82.0	85.6	74.0	11.5	130.0	44.5	71.0	3.0	NE.	NNE.	NE.	155	75.5	75.5	75.0	78.6	.837	.837	.829	.834	84	84	86	84	1.35	10	10	10	O, r.	O, r.	O, r.	
21	.815	.716	.853	.794	79.0	79.0	78.0	78.6	85.0	76.5	8.5	136.0	51.0	70.0	6.0	E½N.	SE.	N.	95	76.0	77.5	76.0	76.5	.800	.924	.872	.858	84	93	91	89	1.65	10	7	8	O, r.	Pc, c.	Pk, c.	
22	.826	.864	.820	.834	78.0	79.0	78.0	78.3	84.5	73.5	11.0	124.0	39.5	71.5	2.0	NW.	WNW.	NW.	250	77.5	79.0	77.5	78.0	.836	.898	.924	.886	68	72	93	77	0.05	4	7	10	Pc, c.	O, r.	Pc, b.	
23	.851	.820	.872	.847	85.5	86.0	79.0	83.5	88.0	77.0	11.0	150.0	62.0	73.5	3.5	NNE.	NW.	NW.	175	75.0	79.5	77.0	77.1	.802	.960	.902	.888	78	85	91	84	.31	10	10	7	Pc, b.	P, c.	Ck, c.	
24	.898	.790	.800	.829	80.0	83.0	79.0	80.6	88.0	78.5	9.5	153.0	64.0	72.0	6.5	NE.	NW.	NW.	200	75.5	77.0	76.5	76.6	.870	.821	.880	.857	77	68	89	78	...	5	3	8	Ck, b.	Cs, b.	Pk, c.	
25	.885	.785	.854	.841	83.0	85.0	79.0	82.3	88.0	72.0	16.0	150.0	62.0	71.0	1.0	NW.	NW.	NW.	95	78.5	78.0	76.5	77.6	.894	.879	.880	.884	75	75	89	79	6.07	6	7	6	Cs, b.	Ck, c.	Cs, c.	
26	.934	.762	.836	.844	84.5	84.0	79.0	82.5	87.5	74.5	13.0	141.0	53.5	69.5	5.0	NW.	NW.	NW.	95	74.0	76.5	76.5	75.6	.774	.880	.894	.849	78	89	93	86	0.69	10	8	10	O, r.	Pc, c.	O, r.	
27	.921	.798	.813	.854	79.0	79.0	78.0	79.3	82.0	73.5	8.5	117.0	35.0	70.0	3.5	NW.	NW.	NW.	95	75.5	75.5	76.0	75.6	.824	.834	.872	.843	80	89	91	86	1.60	7	7	10	Pc, c.	Pc, c.	O, r.	
28	.816	.853	.870	.846	80.0	78.0	78.0	78.6	84.0	72.5	11.5	141.0	57.0	68.0	4.5	NW.	NW.	NW.	85	75.0	75.5	76.0	75.5	.818	.891	.834	.876	79	72	79	76	8.68	9	10	10	Pk, c.	O, r.	O, r.	
29	.917	.830	.850	.867	78.0	78.0	77.0	74.3	88.5	75.5	13.0	130.0	31.5	70.0	2.5	S.	E.	N½W.	125	77.5	79.0	77.5	78.5	.893	.933	.873	.901	82	66	85	77	.60	4	5	4	Ck, b.	Pc, c.	O, r.	
30	.817	.799	.820	.812	84.0	85.0	79.0	82.0	89.0	73.5	15.5	130.0	41.0	71.0	2.5	N.	SE.	NW.	65	78.0	77.0	75.0	76.5	.879	.877	.858	.871	75	76	87	79	2.20	10	10	10	Pc, c.	Ck, b.	Pk, c.	
Mean.	29.859	29.793	29.850	29.834	81.7	84.0	7																																

Highest Atmospheric Pressure 29.981 Inches  
 Lowest Atmospheric Pressure 29.707 "  
 In the Shade { Highest Temperature 89.5° Fah.  
 Lowest Temperature 72.0° "  
 Greatest Fall of Rain in 24 hours 8.68 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSHIRE, M.B.,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE PENANG OBSERVATORY, FOR THE MONTH OF OCTOBER, 1890.

5° 24' N. Lat., 100° 20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Velo- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN  INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.						
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.																								
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NW.	N <sup>1</sup> / <sub>2</sub> E.	NW.	110	80.0	76.0	74.0	76.5	944	872	814	876	76	91	91	86	.15	4	8	6	Ck, b.	Pc, c.	Ck, b.		
2	890	779	836	835	86.5	84.0	80.0	83.5	89.0	75.0	14.0	160.0	71.0	71.0	4.0	S <sup>1</sup> / <sub>2</sub> W.	NW.	NW.	175	78.5	77.0	76.5	77.0	867	834	867	856	68	72	85	75	.05	2	4	4	Pc, c.	Pc, b.	Pk, c.			
3	823	750	813	795	83.0	86.0	79.0	82.5	88.5	75.0	13.5	142.0	53.5	71.0	4.0	NW.	N <sup>1</sup> / <sub>2</sub> W.	NW.	120	79.0	79.0	76.0	78.0	938	898	858	898	83	72	87	80	.10	4	7	8	Cs, b.	Ck, c.	Pc, c.			
4	849	819	823	832	83.0	81.0	78.0	80.5	85.5	76.0	9.5	145.0	59.5	71.5	4.5	NW.	NW.	NW.	120	79.5	79.5	76.0	78.0	960	987	872	938	85	93	91	89	...	3	7	7	Pc, c.	Ck, b.	Pk, c.			
5	827	800	815	847	83.0	85.0	82.0	83.0	86.0	75.5	10.5	148.0	62.0	70.0	5.5	NE.	SE.	NW.	135	79.5	79.0	79.5	79.0	960	911	874	915	85	76	89	83	1.05	5	6	10	Pc, c.	Cs, b.	Pc, c.			
6	821	780	800	800	84.0	82.0	78.0	81.0	86.5	74.0	12.5	135.0	48.5	70.0	4.0	NNW.	NW.	NW.	105	79.0	78.0	76.0	77.0	925	906	872	901	79	83	91	84	2.35	7	8	7	Cs, b.	Ck, c.	Pc, c.			
7	898	866	829	864	76.5	79.0	73.0	77.5	81.0	74.5	6.5	106.0	25.0	71.0	3.5	S <sup>1</sup> / <sub>2</sub> W.	N <sup>1</sup> / <sub>2</sub> E.	NE.	165	75.5	77.0	76.0	76.0	871	902	872	881	95	91	91	92	1.05	10	10	10	O, r.	O, r.	O, r.			
8	814	713	837	788	80.5	78.0	77.0	78.5	83.0	73.5	9.5	125.0	42.0	71.0	2.5	NW.	NNW.	SE.	95	78.0	76.0	75.5	76.5	927	872	864	887	89	91	93	91	.95	10	10	10	O, r.	O, r.	O, r.			
9	842	753	839	811	80.0	83.0	81.0	81.0	86.5	73.5	13.0	155.0	68.5	72.0	1.5	NE.	N <sup>1</sup> / <sub>2</sub> E.	NW.	95	76.5	78.5	77.5	77.5	867	914	897	892	85	81	85	83	...	8	7	8	Pc, c.	Ck, c.	Pc, c.			
10	821	800	847	822	83.0	85.0	81.0	83.0	88.5	77.5	11.0	152.0	63.5	70.0	7.5	N <sup>1</sup> / <sub>2</sub> W.	N.	NW.	145	79.0	78.0	79.5	78.5	938	866	937	930	83	72	93	82	...	6	7	4	Ck, c.	Ck, c.	Cs, b.			
11	899	797	820	838	82.5	83.0	80.0	81.5	87.5	75.5	12.0	156.0	68.5	70.0	5.5	N <sup>1</sup> / <sub>2</sub> E.	NNW.	NW.	110	78.5	79.5	78.0	78.5	921	960	933	938	83	88	91	87	...	8	7	6	Pc, c.	Pc, c.	Pc, c.			
12	890	871	933	898	83.0	77.0	76.0	78.0	83.0	71.5	11.5	136.0	53.0	69.0	2.5	N <sup>1</sup> / <sub>2</sub> E.	NNW.	E.	115	78.0	75.0	74.0	75.5	893	843	814	850	79	91	91	87	3.70	4	10	8	Cs, b.	O, r.	Pc, c.			
13	909	806	873	862	78.0	79.0	78.0	78.0	84.5	73.5	11.0	152.0	67.5	69.0	4.5	NNE.	NW.	N <sup>1</sup> / <sub>2</sub> W.	65	75.5	76.0	77.0	76.0	854	858	916	876	89	87	95	90	4.99	7	10	10	O, r.	O, r.	O, r.			
14	897	760	839	805	76.5	78.0	77.5	81.5	81.5	73.5	8.0	123.0	41.5	70.0	3.5	NW.	NW.	NW.	95	75.5	76.0	75.5	75.5	871	858	834	854	95	87	89	92	.96	10	10	10	O, r.	O, r.	O, r.			
15	907	854	904	888	78.0	78.0	77.0	77.5	81.0	73.5	7.5	109.0	28.0	68.0	5.5	NE.	NW.	NW.	110	75.0	75.5	75.5	75.0	829	854	864	849	86	89	93	89	2.35	8	9	10	Pc, c.	Pc, c.	O, r.			
16	907	817	923	882	79.5	81.0	78.0	79.5	86.0	74.5	11.5	145.0	59.0	69.0	5.5	NW.	NW.	NW.	90	77.0	77.0	76.0	76.5	895	904	872	890	89	87	95	90	.35	7	6	7	Pc, c.	Ck, c.	Pk, c.			
17	941	921	912	924	79.0	82.0	79.0	80.0	85.5	74.5	11.0	144.0	58.5	70.0	4.5	N <sup>1</sup> / <sub>2</sub> W.	N <sup>1</sup> / <sub>2</sub> W.	N <sup>1</sup> / <sub>2</sub> W.	80	77.5	79.0	77.0	77.5	897	952	902	917	85	87	91	87	.05	7	7	8	Pc, c.	Pk, c.	Pc, c.			
18	887	789	937	871	81.5	82.0	79.0	80.5	85.5	72.5	13.0	153.0	67.5	69.0	3.5	N.	N <sup>1</sup> / <sub>2</sub> W.	NW.	45	79.0	78.0	75.0	77.0	959	906	816	873	80	83	82	81	3.10	7	10	10	O, r.	Pc, c.	O, r.			
19	925	845	819	863	74.5	78.0	73.0	76.5	81.5	73.5	8.0	138.0	56.5	70.0	3.5	SW.	SEbS.	N <sup>1</sup> / <sub>2</sub> W.	150	74.0	75.5	75.5	75.0	834	854	854	847	98	89	89	92	.10	8	7	10	Pk, c.	Pc, c.	O, r.			
20	936	836	880	884	79.0	80.0	78.0	79.0	84.5	73.5	11.0	152.0	67.5	68.0	5.5	N <sup>1</sup> / <sub>2</sub> E.	NbW.	NW.	170	77.0	77.5	76.0	76.5	902	910	872	894	91	89	91	90	.25	7	8	8	Pk, c.	P, c.	P, c.			
21	917	840	842	866	77.0	80.5	78.0	78.5	84.0	72.5	11.5	147.0	63.0	69.0	3.5	EbS.	EbN.	N.	100	75.0	76.0	75.5	75.5	845	845	854	848	91	82	89	87	.15	10	8	7	O, r.	Pk, c.	Pc, c.			
22	927	780	897	868	80.0	82.0	78.0	80.0	83.0	71.5	11.5	143.0	60.0	68.0	3.5	NW.	NW.	NW.	80	76.5	78.0	75.5	76.5	873	902	854	876	87	91	89	89	3.25	7	8	7	O, r.	P, c.	P, k.			
23	839	805	895	846	78.5	81.0	78.0	79.0	85.5	74.5	11.0	148.0	62.5	70.5	4.0	S <sup>1</sup> / <sub>2</sub> W.	NNE.	NW.	145	74.0	76.0	76.5	75.5	780	831	894	835	80	78	93	83	.25	7	8	6	P, c.	P, k.	P, c.			
24	901	812	816	843	81.0	83.5	79.0	81.0	85.0	73.5	11.5	150.0	65.0	70.0	3.5	N.	NW.	NW.	115	77.0	78.0	77.0	77.0	875	836	902	871	83	77	90	83	...	8	9	8	P, c.	P, k.	P, k.			
25	911	831	910	884	83.5	83.0	80.0	82.0	88.0	74.5	13.5	152.0	54.0	70.0	4.5	N <sup>1</sup> / <sub>2</sub> E.	S <sup>1</sup> / <sub>2</sub> W.	S <sup>1</sup> / <sub>2</sub> E.	130	77.0	77.5	78.0	77.5	841	877	674	797	73	79	70	74	...	8	9	8	C, k.	P, c.	C, k.			
26	840	790	863	831	83.0	83.0	81.0	82.0	86.0	74.0	12.0	145.0	59.0	71.0	3.0	N <sup>1</sup> / <sub>2</sub> W.	NNW.	NW.	50	78.0	77.0	76.5	77.0	893	848	860	867	79	75	82	78	...	7	6	8	P, c.	C, k.	C, k.			
27	834	765	836	811	80.0	85.0	79.0	81.0	87.5	75.5	12.0	142.0	54.5	70.0	5.5	NW.	N.	NW.	100	75.0	78.0	77.0	73.0	802	866	902	856	76	72	87	79	.25	10	4	10	O, d.	Cs, b.	O, r.			
28	941	806	912	853	82.0	84.0	80.0	82.0	87.5	74.5	13.0	150.0	62.5	70.0	4.5	N.	N.	NW.	65	78.0	78.5	77.0	77.5	906	908	889	901	83	79	85	83	...	4	5	6	Cs, b.	Cs, b.	Cs, b.			

Highest Atmospheric Pressure 29.970 Inches.  
 Lowest Atmospheric Pressure 29.713 "  
 In the shade, { Highest Temperature 89° Fah.  
 { Lowest Temperature 71° "  
 Greatest Fall of Rain in 24 hours 4.99 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSHIRE,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE PENANG HOSPITAL OBSERVATORY, FOR THE MONTH OF NOVEMBER, 1890.

5° 24' N. Lat., 100° 20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch- es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.				
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	S <sub>1</sub> W.	SSW.	NNW.	85	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	.20	8	9	10	Pc, c.	Pk, c.	O, r.	
2	29.893	29.780	29.840	29.837	83.5	84.0	78.0	81.5	88.5	73.0	15.5	154.0	65.5	69.0	4.0	NW.	SSW.	NNW.	105	77.0	78.0	76.0	77.0	.855	.879	.872	.868	77	75	91	81	.40	7	9	10	Pc, c.	Pk, c.	Pc, o.	
3	.900	.850	.880	.876	79.0	82.0	79.0	76.5	85.0	72.0	13.0	154.0	69.0	68.0	4.0	N <sub>1</sub> E.	NW.	E.	75	76.0	78.0	77.0	77.0	.858	.906	.902	.888	87	83	91	87	...	5	4	9	Pc, c.	Pk, c.	Pc, o.	
4	.900	.852	.915	.872	83.0	84.0	79.0	82.0	88.5	74.5	14.0	148.0	59.5	70.0	4.5	N <sub>1</sub> E.	NNE.	NW.	105	77.0	78.0	76.5	77.0	.848	.879	.880	.869	75	75	89	79	.35	7	4	7	Cs, b.	Ck, b.	Pc, c.	
5	.927	.857	.874	.886	82.0	82.0	80.0	80.0	88.0	72.5	15.5	154.0	66.0	68.0	4.5	N.	N.	NW.	105	77.0	78.0	77.5	77.5	.862	.906	.910	.892	79	83	89	83	.50	4	4	10	Cs, l.	Cs, b.	O, r.	
6	.937	.793	.861	.837	81.5	85.0	79.0	81.5	89.0	72.5	16.5	150.0	61.0	69.0	3.5	NW.	N.	NW.	80	75.0	78.0	76.0	76.0	.782	.866	.858	.835	73	72	87	77	...	4	7	9	Cs, b.	Ck, b.	Ck, c.	
7	.889	.755	.984	.876	81.5	85.0	81.0	82.5	88.5	74.5	13.5	148.0	59.5	71.0	3.5	NE.	NE.	NW.	65	76.0	78.0	77.0	77.0	.825	.866	.875	.822	77	72	83	77	.40	4	7	9	Cs, b.	Ck, c.	Pc, c.	
8	.881	.795	.905	.860	84.5	85.0	81.0	83.5	88.0	74.0	14.0	147.0	59.0	70.0	4.0	S.	SbE.	S.	80	77.0	78.0	77.5	77.5	.841	.866	.897	.868	73	72	85	76.5	...	7	6	9	Ck, c.	Pc, c.	Pc, c.	
9	.927	.880	.920	.875	79.0	86.0	79.0	81.0	89.0	73.5	15.5	146.0	60.5	69.0	4.5	NNE.	NE.	NW.	100	76.5	78.0	77.0	77.0	.880	.852	.875	.750	89	68	91	82	...	8	7	4	Pc, c.	Ck, c.	Cs, b.	
10	.945	.813	.806	.854	84.5	85.5	80.5	83.5	87.5	75.0	12.5	148.0	60.5	71.0	4.0	N <sub>1</sub> E.	S <sub>1</sub> E.	NNW.	100	77.0	78.5	77.0	77.0	.828	.874	.882	.861	70	70	85	75	.25	4	5	4	Cs, b.	Ck, c.	P, c.	
11	.902	.768	.849	.839	83.0	84.0	81.0	82.5	88.5	75.5	13.0	147.0	58.5	70.0	5.5	NE.	NW.	NW.	85	77.5	78.0	76.0	77.0	.876	.879	.831	.862	77	75	78	76	...	5	5	7	Cs, b.	Ck, b.	Ck, c.	
12	.876	.753	.848	.825	82.5	85.0	80.0	82.5	89.0	74.5	14.5	147.0	58.0	69.0	5.5	N <sub>1</sub> E.	NNW.	NW.	140	78.0	78.0	77.0	77.5	.899	.866	.889	.684	81	72	87	80	.06	4	7	10	Cs, b.	Ck, c.	O, r.	
13	.910	.793	.840	.847	79.5	85.0	79.0	81.0	88.5	75.5	13.0	156.0	67.5	70.0	5.5	S.	S <sub>1</sub> E.	S <sub>1</sub> W.	105	75.5	77.5	77.0	76.5	.831	.849	.902	.860	82	72	91	81	...	6	5	5	Pc, c.	Ck, c.	Ck, c.	
14	.937	.825	.894	.885	81.0	85.0	80.0	82.0	88.5	73.5	15.0	152.0	63.5	70.0	3.5	NE.	S <sub>1</sub> E.	NW.	70	76.5	77.0	77.0	77.5	.853	.911	.889	.884	80	75	87	80	...	5	4	2	Cs, b.	K, b.	C, b.	
15	.931	.799	.875	.865	82.0	86.0	79.0	82.0	89.5	71.5	18.0	147.0	57.5	63.0	3.5	NNE.	N.	NNW.	130	76.0	78.0	76.5	76.5	.818	.879	.801	.832	65	68	89	77	1.75	4	9	10	Cs, b.	Ck, c.	O, r.	
16	.880	.820	.862	.854	82.0	86.0	80.0	82.5	89.5	71.5	18.0	145.0	55.5	68.0	3.5	N <sub>1</sub> E.	NW.	NW.	145	78.0	79.0	76.5	77.5	.899	.898	.867	.888	83	72	85	88	...	4	7	5	Ck, b.	Cs, b.	Cs, b.	
17	.916	.805	.873	.864	82.0	83.0	78.0	81.0	89.5	69.5	20.0	155.0	65.5	67.0	2.5	E <sub>1</sub> N.	NW.	NW.	150	78.0	76.0	73.5	75.5	.906	.804	.768	.826	83	71	80	78	...	8	7	2	Pc, c.	Pc, c.	C, b.	
18	.920	.889	.901	.900	82.0	84.0	78.0	81.0	87.0	72.5	14.5	144.0	57.0	68.0	4.5	NNE.	NNW.	NW.	110	78.0	75.0	74.0	75.5	.906	.748	.787	.813	83	64	82	76	.13	4	5	4	Cs, b.	Cs, b.	Cs, b.	
19	.937	.836	.880	.884	80.5	84.0	78.0	80.5	88.0	71.5	16.5	142.0	54.0	70.0	1.5	NCE.	NW.	NNW.	110	76.5	76.0	76.0	76.0	.845	.791	.872	.836	82	76	91	83	...	3	6	4	Cs, b.	Ck, b.	Cs, b.	
20	.915	.721	.834	.823	78.0	81.0	77.0	78.5	89.0	74.0	15.0	149.0	60.0	70.0	4.0	N <sub>1</sub> E.	NW.	NW.	125	75.0	75.0	74.0	74.5	.829	.789	.801	.806	88	74	86	82	...	5	6	8	Cs, b.	Ck, b.	Ck, c.	
21	.918	.801	.840	.853	83.5	86.0	78.0	82.5	89.5	73.5	16.0	148.0	58.5	71.5	2.0	N <sub>1</sub> W.	NW.	NW.	180	78.5	78.5	76.0	77.5	.908	.859	.872	.879	79	70	91	80	.21	4	5	10	Cs, b.	Ck, c.	Pc, c.	
22	.923	.841	.839	.867	81.5	82.0	79.0	80.5	88.0	73.5	14.5	154.0	66.0	70.0	3.5	N.	N.	N <sub>1</sub> W.	140	77.0	77.5	75.5	76.5	.868	.883	.837	.862	81	81	84	82	...	8	4	7	Pc, c.	Ck, c.	Pc, c.	
23	.925	.837	.925	.895	82.5	83.0	79.0	81.5	87.5	73.5	14.0	152.0	64.5	70.0	3.5	N.	NW.	NW.	145	78.5	78.0	75.0	77.0	.922	.893	.816	.877	83	79	82	81	...	2	6	5	Cs, b.	Pc, c.	Cs, b.	
24	.927	.825	.906	.886	82.5	85.0	80.0	82.5	87.5	76.5	11.0	145.0	57.5	70.0	6.5	N.	NW.	N.	250	76.0	77.0	76.0	76.0	.811	.821	.845	.829	72	68	82	87	.10	2	6	8	Cs, b.	Pc, c.	Pc, c.	
25	.913	.786	.892	.863	82.0	84.0	80.0	82.0	85.5	73.5	12.0	151.0	65.5	70.0	3.5	N.	NW.	NW.	240	77.0	77.0	76.5	76.5	.862	.834	.867	.854	79	72	85	78	...	4	7	8	Cs, b.	Pc, c.	Pc, c.	
26	.913	.799	.873	.861	81.0	82.0	79.0	80.5	85.5	73.5	12.0	129.0	43.5	70.0	3.5	NW.	S.	S.	90	77.5	78.0	77.0	77.5	.897	.906	.902	.901	85	83	91	86	.05	9	4	2	Pc, c.	Cs, b.	Cs, b.	
27	.982	.875	.918	.925	81.0	80.5	77.5	79.6	88.5	73.5	15.0	148.0	59.5	69.0	4.5	E.	S <sub>1</sub> W.	S.	45	76.0	77.0	75.0	76.0	.831	.882	.839	.850	78	85	89	84	...	6	8	4	Ck, c.	Pk, c.	Cs, b.	
28	.901	.779	.800	.826	81.5	85.0	79.0	81.5	89.5	74.5	15.0	147.0	57.5	70.0	4.5	N <sub>1</sub> W.	N <sub>1</sub> W.	NE.	80	77.0	79.0	76.0	77.0	.868	.911	.858	.879	81	76	87	84	.90	3	7	4	C, sb.	Ck, c.	Cs, b.	
29	.911	.800	.883	.864	82.0	83.0	79.0	81.0	88.0	75.0	13.0	152.0	64.0	70.0	5.0	NNE.	N <sub>1</sub> E.	NNE.	70	77.0	79.0	76.0	77.0	.831	.866	.656	.784	78	72	87	79	...	4	7	8	Cs, b.	Cs, c.	Pc, c.	
30	.901	.890	.860	.853	81.0	85.0	79.0	81.0	88.5	73.0	15.5	149.0	60.5	70.0	3.0	N <sub>1</sub> E.	NW.	SE.	95	77.0	76.5	77.0	77.0	.862	.938	.902	.900	78	83	91	84	.17	8	8	8	Pc, c.	Cs, c.	Pk, c.	
Mean.	29.913	29.810	29.871	29.864	81.5	84.0	79.0	81.5	88.0	73.0	15.																												

Highest Atmospheric Pressure 29.934 Inches  
 Lowest Atmospheric Pressure 29.721 "  
 In the Shade { Highest Temperature 89.5 Fah.  
 Lowest Temperature 69.5 "  
 Greatest Fall of Rain in 24 hours 1.75 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSHIRE, M.B.,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE CRIMINAL PRISON HOSPITAL OBSERVATORY, PENANG FOR THE MONTH OF DECEMBER, 1890.

5° 24' N. Lat., 100° 20' E. Long.

Height of Bar Cistern above Sea Level, 20 ft.

DATE	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.	COMPUTED VAPOUR TENSION.				RELATIV HUMIDITY.				RAIN INCHES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.							
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			Total Miles.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																						
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NE.	SSE.	N <sub>2</sub> W.	80	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	...	6	4	7	Cs, b.	Pe, o, r.	Pk, c.		
2	864	805	859	842	82.5	83.0	81.0	82.0	87.0	72.5	14.5	151.0	64.0	68.0	4.5	NNE.	SE.	NW.	146	76.0	77.5	77.0	76.5	811	870	834	838	73	77	72	74	...	7	8	10	P, c.	Pe, c.	O, r.		
3	913	828	840	860	81.5	84.0	81.0	82.0	89.0	73.5	15.5	153.0	64.0	70.0	3.5	N.	NW.	NW.	90	75.0	77.0	77.0	76.0	782	848	875	835	73	75	83	77	1.15	4	10	7	C, Cs.	O, r.	Pe, d.		
4	913	806	893	870	82.0	84.0	79.0	81.0	87.5	74.5	13.0	152.0	64.5	72.5	2.0	NW.	S.	NE.	45	78.0	78.5	77.0	77.0	906	886	902	898	83	77	91	83	...	3	9	8	Be, k.	Pe, o.	Pk, c.		
5	989	877	846	871	84.0	82.0	79.0	81.0	87.0	75.0	12.0	145.0	58.0	70.0	5.0	NNE.	NW.	S.	100	77.5	77.5	77.0	77.0	908	739	871	852	83	76	93	84	...	2	7	8	B, e.	Pk, c.	Ok, c.		
6	868	975	850	894	80.0	79.0	78.0	80.0	86.0	75.0	11.0	146.0	54.0	68.0	6.0	N.	NW.	SW.	60	77.5	77.5	77.0	76.0	879	944	902	908	75	76	91	80	...	6	8	6	Pe, c.	Pk, c.	Ck, c.		
7	856	769	883	835	85.0	83.0	78.0	82.0	87.0	75.0	12.0	152.0	65.0	73.0	2.0	NE.	SE.	SbW.	80	79.0	73.5	76.0	76.0	911	893	872	892	76	79	91	82	.07	7	6	8	Cs, b.	Ck, c.	Ok, c.		
8	903	865	891	886	78.0	83.0	79.0	80.0	86.0	73.0	13.0	151.0	65.0	67.0	6.0	N.	N.	NW.	85	74.0	76.0	77.0	76.5	871	938	858	861	82	83	87	81	...	8	4	2	Cs, b.	Ck, c.	Pe, k.		
9	927	713	876	839	81.5	86.0	79.0	82.2	87.0	75.0	12.0	143.0	56.0	67.0	8.0	N <sub>2</sub> W.	N.	NW.	79	75.0	75.0	76.0	75.3	782	721	858	787	73	58	87	73	...	4	4	2	Pe, c.	O, r.	Pe, c.		
10	829	733	868	810	80.0	86.0	80.0	82.0	84.0	72.0	12.0	153.0	65.0	64.0	8.0	NE.	NE.	NW.	115	74.0	75.0	74.0	74.3	760	721	760	747	74	58	74	69	...	2	5	2	Pe, c.	O, r.	C, k.		
11	855	755	811	807	82.0	86.0	79.0	82.3	88.0	72.0	16.0	157.0	62.0	65.0	7.0	NW.	SE.	SEE.	80	76.0	75.0	74.0	75.0	818	721	774	771	75	58	78	70	...	2	4	2	Cb, s.	O, r.	Pe, c.		
12	864	781	835	827	81.0	85.0	79.0	81.7	88.0	74.0	14.0	152.0	64.0	68.0	6.0	NE.	NW.	NW.	75	76.0	77.0	75.0	76.0	831	821	816	823	78	68	82	76	.75	2	6	3	C, b.	Ck, b.	Pe, c.		
13	848	843	894	862	79.0	82.0	80.0	80.3	85.0	74.0	11.0	147.0	62.0	71.0	3.0	SE.	NbE.	NE.	90	76.0	77.0	77.0	76.7	858	862	889	870	87	80	87	84	1.13	8	8	10	Cs, b.	C, o, r.	P, k.		
14	845	752	862	820	80.0	83.0	79.0	80.7	85.0	75.0	10.0	145.0	60.0	71.0	4.0	NE.	N <sub>2</sub> E.	NW.	65	77.0	78.0	77.0	77.3	889	893	902	895	87	79	91	86	...	6	8	5	Pe, c.	O, r.	Pe, c.		
15	907	854	904	888	78.0	78.0	77.0	77.5	86.0	73.5	12.5	149.0	63.0	68.0	5.5	NE.	NW.	NW.	90	75.0	75.5	75.5	75.0	829	854	864	849	86	89	93	89	...	8	9	10	Pe, c.	O, r.	Pe, c.		
16	941	859	897	896	78.0	84.0	79.0	79.7	85.0	74.0	11.0	150.0	65.0	70.0	4.0	NE.	NbW.	SbW.	95	75.0	79.0	76.0	76.7	829	925	886	880	86	79	95	87	...	6	6	4	P, c.	C, k.	O, r.		
17	937	801	868	869	80.0	80.0	79.0	79.7	84.0	75.0	9.0	137.0	53.0	70.0	5.0	NNE.	SbW.	NW.	75	75.0	76.5	75.0	75.7	802	845	816	821	78	82	82	81	...	6	8	2	Pe, c.	Pk, o.	Ck, b.		
18	953	820	895	889	81.5	87.0	75.5	81.3	89.0	73.0	16.0	153.0	64.0	71.5	1.5	NE.	NbW.	NW.	145	76.0	79.0	75.0	76.5	835	884	802	841	80	69	78	76	...	4	5	7	Pe, c.	Cs, b.	Pe, c.		
19	941	779	964	895	84.5	87.5	76.0	82.5	89.0	73.0	16.0	154.0	64.0	72.0	1.0	NW.	NW.	S <sub>2</sub> E.	145	79.0	80.0	75.0	78.0	918	924	856	899	77	71	95	81	...	6	8	8	Cs, b.	Pe, c.	Ck, b.		
20	925	829	958	904	81.5	81.0	75.5	79.3	88.0	75.0	13.0	155.0	67.0	72.0	3.0	NE.	N.	NW.	65	76.0	79.0	74.0	76.5	831	966	821	872	78	81	93	87	...	4	6	8	Cs, b.	Pe, c.	O, r.		
21	940	822	949	904	83.0	83.5	78.0	81.1	85.0	75.0	10.0	156.0	71.0	72.0	3.0	N.	NW.	E.	90	78.0	77.0	74.5	76.5	893	841	807	847	79	73	88	80	...	2	5	2	Pe, c.	Cs, b.	C, k.		
22	934	844	921	899	82.5	85.0	76.0	79.6	89.0	75.0	14.0	154.0	65.0	73.0	2.0	N.	NW.	NW.	110	78.0	76.5	73.5	75.0	899	799	793	809	81	66	88	80	...	2	2		C, b.	C, b.	b.		
23	942	808	930	870	82.5	86.5	77.0	80.0	89.5	74.0	15.5	155.5	66.0	72.5	1.5	N.	NW.	NNW.	195	78.0	77.0	74.0	75.2	899	801	801	815	81	63	86	80	...			3	C, b.	b.	b.		
24	934	818	909	887	82.0	89.0	79.0	81.2	90.0	75.0	15.0	150.0	60.0	70.0	5.0	N.	NW.	NW.	150	74.0	73.0	73.0	72.7	735	597	732	694	67	44	74	66	...				b.	b.	Cs, c.		
25	900	784	897	860	80.0	86.0	78.0	79.2	90.0	73.0	17.0	147.0	57.5	68.0	7.0	N.	NW.	NW.	175	73.0	73.0	72.5	72.0	719	638	725	689	70	51	75	69	...	2	2		b.	C, b.	C, b.		
26	931	802	888	873	81.5	90.0	75.0	79.2	90.5	70.5	20.0	146.0	55.0	65.0	5.5	N.	NW.	NW.	105	72.0	74.0	72.5	71.7	658	625	766	680	61	44	88	71	...				b.	b.	b.		
27	909	814	916	879	80.5	89.0	76.5	79.5	89.0	72.0	17.0	151.0	62.0	66.5	5.5	NE.	S.	NW.	180	75.0	74.5	73.0	73.0	725	660	766	727	76	48	84	74	...				b.	b.	b.		
28	937	800	873	870	80.0	86.5	76.0	78.6	89.0	72.0	17.0	147.0	58.0	66.5	5.5	NE.	NNW.	NW.	75	75.5	76.0	73.0	73.6	824	757	773	765	80	60	86	79	...	2	2	4	C, b.	C, b.	P, c.		
29	889	790	868	849	82.0	88.0	77.0	80.6	90.0	75.5	14.5	145.0	55.0	70.5	5.0	NE.	NW.	N.	105	77.0	77.0	76.0	75.3	862	780	886	811	79	59	95	78	...		4	6	b.	Cs, c.	Pk, c.		
30	897	784	880	853	82.0	91.0	76.5	80.7	91.0	73.5	17.5	146.0	58.0	68.0	5.5	S.	NW.	NNW.	220	74.0	77.0	73.0	73.7	733	740	787	741	67	51	86	72	...	2	2		C, b.	C, b.	b.		
31	884	780	859	841	82.0	87.5	78.5	80.5	90.0	74.5	16.0	154.0	64.0	69.5	4.5	N.	NW.	NNW.	140																					

Highest Atmospheric Pressure 29.989 Inches.  
 Lowest Atmospheric Pressure 29.713 "  
 In the shade, } Highest Temperature 91.° Fah.  
 } Lowest Temperature 70.°5 "  
 Greatest Fall of Rain in 24 hours 1.15 inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

F. K. HAMPSHIRE,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE BUKIT MINYAK HOSPITAL OBSERVATORY, FOR THE MONTH OF JANUARY, 1890.

5°22' N. Lat., 100°30' E. Long.

Height of Bar Cistern above Sea Level, 43 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.						TEMPERATURE OF RADIATION.				WIND.		Velo- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.				
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.	
																9 H.	15 H.	21 H.												Total Miles.								
1	29.962	29.880	29.944	29.928	86.0	89.5	79.0	82.1	91.5	74.0	17.5	144.0	52.5	72.0	2.0	Calm.	SW.	Calm.	10	79.0	80.5	77.0	78.8	.914	.903	.902	.906	72	66	91	76	...	0	6	6	b.	Ck, c.	Ck, c.
2	.978	.896	.982	.952	85.0	89.0	79.0	81.7	91.5	74.0	17.5	144.0	52.5	72.5	2.0	SW.	NW.	Calm.	19	78.0	80.0	76.0	78.0	.898	.903	.858	.886	72	66	87	75	...	4	0	0	Ck, b.	b.	b.
3	.988	.918	.978	.961	85.0	88.0	78.0	81.1	89.5	73.5	16.0	136.0	46.5	71.5	2.0	SW.	NW.	Calm.	41	77.5	78.0	76.0	77.1	.828	.825	.872	.841	70	62	91	74	...	0	6	8	b.	Ck, c.	Pk, o.
4	.992	.823	.885	.900	81.5	86.0	80.0	80.3	88.0	74.0	14.0	121.0	33.0	70.0	4.0	Calm.	SW.	Calm.	50	76.5	78.0	75.0	76.5	.831	.852	.802	.828	78	68	78	74	...	8	6	6	Ck, o.	Pk, c.	Ck, c.
5	.882	.791	.811	.828	80.0	86.5	80.0	79.8	89.0	73.0	16.0	139.0	50.0	69.0	4.0	Calm.	SW.	Calm.	40	77.0	79.0	76.0	77.3	.889	.907	.845	.880	87	70	82	79	.04	8	4	0	Pk, o.	Ck, b.	b.
6	.899	.787	.896	.860	84.0	89.5	79.0	81.3	91.5	73.0	18.5	141.0	49.5	70.0	3.0	Calm.	WSW.	Calm.	16	80.0	79.0	76.5	78.5	.971	.864	.865	.900	83	64	89	78	...	4	2	4	Ck, b.	Ck, b.	Pk, b.
7	.912	.813	.869	.864	80.0	88.5	76.5	80.1	89.5	75.5	14.6	136.0	46.5	70.0	5.5	NE.	SSW.	Calm.	50	73.5	76.5	72.5	74.1	.726	.737	.732	.731	72	56	82	70	...	6	6	0	Ck, c.	Ck, c.	b.
8	.960	.832	.850	.880	80.5	88.5	75.0	78.8	89.5	71.5	18.0	128.0	38.5	69.0	2.5	NW.	SSW.	SW.	125	74.5	79.0	72.5	75.3	.760	.864	.746	.790	74	64	86	74	...	6	0	4	Pk, c.	b.	Ck, b.
9	.862	.808	.852	.840	82.5	85.5	74.5	78.1	89.5	70.0	19.5	133.0	43.5	68.5	1.5	SW.	SSW.	NE.	120	77.0	77.0	71.5	75.1	.855	.814	.720	.796	77	66	86	76	.07	4	6	2	Ck, b.	Pk, c.	Ck, b.
10	.874	.810	.868	.850	81.5	86.5	75.5	78.3	89.5	70.0	19.5	137.0	47.5	68.0	2.0	NE.	SSW.	NNW.	115	75.5	79.0	72.5	75.6	.789	.891	.746	.808	74	70	86	76	.40	6	4	0	Ck, c.	Pk, b.	b.
11	.893	.808	.859	.853	84.5	86.5	76.5	79.5	88.5	70.5	18.0	130.0	41.5	68.0	2.5	SSW.	SSW.	NNW.	175	77.0	78.5	72.5	76.0	.828	.852	.732	.804	70	68	82	73	.35	4	6	6	Ck, b.	Pk, c.	Ck, c.
12	.903	.781	.891	.858	84.0	87.5	78.0	80.1	88.5	71.0	17.5	115.0	26.5	69.0	2.0	SSE.	NNE.	SSE.	54	76.5	77.5	74.5	76.1	.798	.794	.794	.795	79	62	84	71	.65	4	6	0	Ck, b.	Pk, c.	b.
13	.863	.818	.839	.840	81.5	82.5	75.5	77.7	86.5	71.5	15.0	110.0	23.5	69.0	2.5	SSW.	SSW.	Calm.	135	77.5	78.5	75.0	76.3	.875	.906	.780	.853	83	83	88	84	.23	4	4	0	Ck, b.	Ck, b.	b.
14	.848	.787	.841	.855	83.5	85.5	75.5	78.8	88.5	71.0	17.5	134.0	45.5	68.0	3.0	SSW.	Calm.	SSW.	58	77.5	79.5	72.5	76.5	.848	.911	.746	.835	75	76	86	79	.62	6	4	0	Ck, c.	Ck, b.	b.
15	.861	.761	.847	.825	81.0	86.5	75.5	78.3	89.5	70.5	19.0	127.0	37.5	67.0	3.5	SSW.	SSW.	SSW.	60	75.5	79.5	72.5	75.8	.789	.898	.746	.811	74	72	86	77	.07	4	6	0	Ck, b.	Ck, c.	b.
16	.971	.778	.864	.874	82.5	86.5	77.0	79.1	89.5	70.5	19.0	140.0	50.5	68.0	2.5	Calm.	NNW.	SSW.	80	77.0	76.5	74.0	75.8	.855	.764	.801	.806	77	61	86	74	.90	4	10	0	Ck, b.	Ck, o.	b.
17	.873	.720	.841	.811	82.5	86.0	76.0	78.7	87.5	70.5	17.0	125.0	37.5	67.0	3.5	SSW.	Calm.	Calm.	136	77.0	76.5	72.5	75.3	.855	.771	.739	.788	77	63	84	74	.30	4	8	0	Ck, b.	Pk, o.	b.
18	.843	.794	.835	.824	82.0	85.0	76.5	79.0	87.5	72.5	15.0	124.0	36.5	68.0	4.5	NNW.	SSW.	Calm.	125	76.5	78.0	75.0	75.8	.825	.866	.766	.819	77	72	84	77	.10	4	6	0	Ck, b.	Ck, c.	b.
19	.908	.831	.900	.880	79.5	83.5	76.5	78.0	88.0	72.5	15.5	135.0	45.0	69.0	3.5	SSW.	SSE.	SSW.	125	77.5	79.5	74.0	77.0	.902	.938	.807	.882	91	83	88	87	.05	4	6	8	Ck, b.	Pk, c.	Pk, o.
20	.895	.805	.856	.852	79.5	85.5	77.5	79.0	88.0	73.5	14.5	122.0	34.0	70.0	3.5	NNW.	NNE.	SSE.	55	75.5	79.5	74.5	76.5	.816	.911	.801	.842	82	76	86	81	.13	4	6	0	Pk, b.	Ck, b.	b.
21	.914	.828	.872	.871	81.5	87.5	79.5	80.6	90.5	74.0	16.5	132.0	41.5	70.0	4.0	SSE.	NNE.	SSE.	75	77.5	79.0	75.5	77.3	.875	.877	.816	.856	83	67	82	77	.05	6	4	0	Ck, c.	K, b.	b.
22	.857	.701	.829	.795	81.5	90.0	78.5	80.8	91.0	73.5	18.5	137.0	46.0	70.0	3.5	SSE.	SSW.	NNE.	140	78.5	81.5	74.5	78.1	.920	.944	.787	.883	87	68	82	79	...	4	6	0	Ck, b.	K, c.	b.
23	.820	.724	.810	.784	83.5	88.5	76.5	80.2	90.0	72.5	17.5	135.0	45.0	69.0	3.5	SSW.	SSW.	Calm.	175	78.5	79.5	74.0	77.3	.893	.871	.807	.857	79	66	88	77	.71	6	8	10	Ck, c.	Ck, o.	Pk, o.
24	.903	.808	.858	.856	78.5	87.5	77.5	79.2	89.5	73.5	16.0	132.0	42.5	70.0	3.5	NNW.	SSW.	SSW.	45	74.5	79.5	73.5	75.8	.787	.884	.759	.810	82	69	82	77	.15	8	6	0	Pk, o.	Ck, c.	b.
25	.920	.802	.852	.858	84.5	87.5	77.5	80.2	90.5	71.5	19.0	140.0	49.5	69.0	2.5	SSW.	SSE.	SSW.	75	79.5	78.5	73.5	77.1	.925	.838	.759	.840	79	66	82	75	...	6	8	0	Ck, c.	Ck, o.	b.
26	.935	.798	.836	.856	86.5	89.5	78.5	82.0	91.5	73.5	18.0	145.0	53.5	70.0	3.5	SSW.	SSW.	NNE.	125	79.5	79.5	75.5	78.1	.898	.857	.829	.861	72	63	86	73	...	4	6	0	Ck, b.	Ck, c.	b.
27	.954	.734	.853	.847	88.5	89.5	79.5	82.3	91.5	72.0	19.5	133.0	41.5	68.0	4.0	SSW.	SSW.	Calm.	95	79.0	79.5	75.5	78.0	.864	.857	.816	.845	61	63	82	69	...	6	8	0	Ck, b.	Ck, o.	b.
28	.887	.780	.841	.836	85.5	90.5	79.5	82.2	91.5	73.5	18.0	138.0	46.5	69.0	4.5	NNW.	SSW.	SSW.	120	78.5	79.5	74.5	77.5	.866	.843	.774	.827	72	60	78	70	...	4	4	8	Ck, b.	Ck, b.	Pk, o.
29	.923	.805	.853	.861	83.5	89.5	79.5	81.2	91.5	72.5	19.0	148.0	56.5	69.0	3.5	SSW.	SSW.	SSW.	115	77.5	80.5	74.5	77.5	.848	.903	.774	.841	75	66	78	73	...	4	0	8	Ck, b.	b.	Pk, o.
30	.951	.817	.898	.888	84.5	89.5	76.5	81.0	90.5	73.5	17.0	136.0	45.5	70.0	3.5	NNW.	SSW.	SSW.	135	78.5	79.5	74.0	77.3	.879	.857	.807	.847	75	63	88	75	.86	4	6	6	Ck, b.	Ck, c.	Pk, c.
31	.947	.816	.903	.888	81.5	89.0	79.5	80.6	91.5	72.5																												

Highest Atmospheric Pressure 29.992 Inches.  
 Lowest Atmospheric Pressure 29.701 "  
 In the shade, { Highest Temperature 91.5 Fah.  
 { Lowest Temperature 70.0 "  
 Greatest Fall of Rain in 24 hours .90 Inches.

\*The daily Mean Temperature of air is obtained  
 from the results of the observations at 9 H, 15 H, 21  
 H, and Minimum Temperature.

J. H. McCLOSKEY,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE BUKIT MINYAK OBSERVATORY, FOR THE MONTH OF FEBRUARY, 1890.

5°22' N. Lat., 100°33' E. Long.

Height of Bar Cistern above Sea Level, 43 ft.

DATE	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.						TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.	COMPUTED VAPOUR TENSION.				RELATIV HUMIDITY.				RAIN INCH-ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																														
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.				Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.																																																																																																																																																																																																																																																										
																9 H.	15 H.	21 H.																																																																																																																																																																																																																																																																												
1	29.959	29.814	29.919	29.897	84.5	89.5	79.5	81.2	91.5	71.5	20.0	143.5	52.0	69.0	2.5	NNW.	SSE.	SSE.	95	77.5	78.5	76.5	77.5	834	780	858	824	72	59	87	72	...	4	6	8	Ck, b.	Ck, c.	Ck, o.																																																																																																																																																																																																																																																								
2	939	836	917	897	83.5	88.5	76.5	80.0	89.5	71.5	18.0	136.5	47.0	68.0	3.5	SSE.	NNW.	SSE.	105	76.5	80.5	73.5	76.8	804	917	773	831	71	69	86	75	...	4	6	2	Ck, b.	Ck, c.	Pk, b.																																																																																																																																																																																																																																																								
3	947	804	847	866	81.5	90.0	78.5	80.1	92.5	70.5	22.0	147.5	55.0	67.0	3.5	NNW.	SSW.	NNW.	195	75.5	78.5	76.5	76.8	739	805	872	822	74	58	91	74	...	6	0	8	Ck, c.	b.	Pk, o.																																																																																																																																																																																																																																																								
4	949	735	844	842	81.5	89.5	73.5	80.0	91.5	70.5	21.0	145.5	54.0	67.0	3.5	NNW.	SSW.	SSW.	175	73.5	78.5	72.5	74.8	705	811	705	740	67	59	74	66	...	2	0	0	Cs, K, b.	b.	b.																																																																																																																																																																																																																																																								
5	937	718	822	825	82.5	87.5	80.5	80.5	89.5	71.5	18.0	148.5	59.0	68.0	3.5	SSW.	SSW.	SSE.	150	79.5	77.5	76.5	77.8	952	794	845	863	87	62	82	77	...	4	4	8	Ck, b.	Ck, b.	Pk, o.																																																																																																																																																																																																																																																								
6	945	734	833	837	82.5	89.5	79.5	80.5	91.5	70.5	21.0	149.5	58.0	67.0	3.5	SSW.	Calm.	NNW.	95	77.5	81.5	76.5	78.5	862	951	858	890	79	69	87	78	.17	4	4	2	Ck, b.	Pk, b.	Pk, o, r.																																																																																																																																																																																																																																																								
7	931	811	859	867	78.0	88.5	77.5	79.3	90.5	73.5	17.0	141.0	50.5	69.0	4.5	SSW.	NNW.	SSW.	75	75.5	78.5	75.5	79.8	839	825	843	835	89	62	91	80	.93	6	4	10	Cs, K, c.	Ck, b.	Pk, o, r.																																																																																																																																																																																																																																																								
8	924	790	836	850	81.5	88.5	78.5	80.1	90.5	72.0	18.5	145.0	57.5	67.5	4.5	SSW.	Calm.	NNW.	45	76.5	79.5	75.5	77.4	831	871	829	813	78	66	86	76	...	4	6	6	Ck, b.	Ck, c.	Pk, c.																																																																																																																																																																																																																																																								
9	927	787	879	864	83.5	90.0	76.5	80.3	89.5	71.5	18.0	140.0	50.5	65.0	3.5	SSE.	SSW.	Calm.	55	76.5	77.5	74.5	76.1	804	774	814	797	71	57	91	73	.04	2	4	6	Cs, K, b.	Pk, b.	Pk, c, r.																																																																																																																																																																																																																																																								
10	944	708	860	837	85.5	88.5	77.5	80.7	89.5	71.5	18.0	140.0	50.5	68.0	3.5	SSW.	SSE.	SSW.	75	76.5	79.5	74.5	76.8	777	871	801	816	64	66	86	72	...	4	2	6	Ck, b.	Ck, b.	Pk, c.																																																																																																																																																																																																																																																								
11	928	755	844	841	81.0	82.5	77.5	77.8	90.5	70.5	20.0	143.0	52.5	67.0	3.5	SSE.	SSW.	NNW.	80	76.5	78.5	74.5	76.5	838	906	801	848	89	83	86	83	.43	4	6	10	Ck, b.	Pk, c.	Po, r.																																																																																																																																																																																																																																																								
12	932	778	855	855	78.5	83.5	77.5	77.5	87.5	70.5	17.0	108.0	20.5	67.0	3.5	SSW.	NNW.	SSW.	75	76.5	78.5	75.0	76.6	872	893	839	868	91	79	89	86	...	4	6	6	Pk, b.	Ck, c.	Pk, c.																																																																																																																																																																																																																																																								
13	958	810	847	871	79.5	87.5	78.5	79.0	91.5	70.5	21.0	149.0	57.5	67.0	3.5	SSW.	SSW.	Calm.	25	75.5	80.5	76.0	77.3	816	931	865	870	82	72	89	81	.30	4	6	10	Cs, K, b.	Pk, c.	Pk, o, r.																																																																																																																																																																																																																																																								
14	938	790	852	860	81.5	89.5	78.5	80.5	90.5	72.5	18.0	143.0	52.5	68.0	4.5	NNW.	SSW.	Calm.	45	77.0	79.5	76.0	77.5	868	857	865	863	81	63	89	77	1.07	4	4	10	Cs, K, b.	Ck, b.	Pk, o, r.																																																																																																																																																																																																																																																								
15	904	726	843	824	86.0	85.5	78.5	80.6	91.5	72.5	19.0	151.0	59.5	69.0	3.5	SSW.	SSE.	SSW.	50	78.5	79.5	76.0	78.0	855	911	865	878	70	76	89	78	...	4	4	6	Ck, b.	Ck, b.	Pk, c.																																																																																																																																																																																																																																																								
16	860	688	819	789	83.5	88.5	79.0	80.8	90.5	72.5	18.0	142.0	51.5	68.0	4.0	SSW.	SSW.	SSW.	50	79.5	80.0	76.5	78.6	938	910	865	904	83	68	89	80	...	4	2	0	Ck, b.	Ck, b.	b.																																																																																																																																																																																																																																																								
17	965	778	896	879	85.5	90.5	82.5	83.0	91.5	73.5	18.0	145.0	53.5	69.0	4.5	SSW.	SSW.	S.W.	30	79.5	79.0	76.5	78.3	911	837	818	855	76	58	76	70	...	4	4	0	Ck, b.	Ck, b.	b.																																																																																																																																																																																																																																																								
18	998	782	898	892	81.5	86.5	76.5	80.2	90.5	73.5	17.0	151.0	60.5	70.0	3.5	NNE.	SSW.	SSW.	25	79.5	78.5	74.0	77.3	925	852	807	861	79	68	88	78	...	6	6	0	Ck, c.	Ck, c.	b.																																																																																																																																																																																																																																																								
19	959	758	859	858	83.5	81.5	78.5	79.2	90.5	73.5	17.0	145.0	54.5	70.0	3.5	NNE.	S.W.	SSW.	25	78.5	77.5	74.5	76.8	893	875	787	818	79	83	82	81	1.03	4	6	0	Cs, K, b.	Ck, c.	Pk, o, r.																																																																																																																																																																																																																																																								
20	977	770	920	889	84.5	90.0	77.5	81.1	90.5	72.5	18.0	150.0	59.5	68.0	4.5	SSW.	SSW.	SSW.	45	76.5	80.5	75.0	77.3	791	897	839	842	68	65	89	74	.49	2	4	10	Cs, K, b.	Pk, b.	Pk, o, r.																																																																																																																																																																																																																																																								
21	960	808	873	880	82.5	85.5	76.5	79.5	90.5	73.5	17.0	150.0	59.5	69.0	4.5	SSW.	NNW.	SSW.	45	78.5	78.0	74.0	76.8	906	859	807	857	83	70	88	80	1.25	4	4	10	Pk, b.	Pk, b.	Pk, o, r.																																																																																																																																																																																																																																																								
22	927	727	862	838	83.5	87.5	80.5	80.7	89.5	71.5	18.0	155.0	65.5	68.0	3.5	SSW.	SSW.	S.W.	25	77.5	79.5	76.0	77.1	841	884	838	856	75	69	80	74	...	2	6	0	Ck, b.	Ck, c.	b.																																																																																																																																																																																																																																																								
23	956	771	892	873	86.0	90.0	79.0	81.7	89.5	72.0	17.5	157.0	67.5	67.0	5.0	SSW.	SSW.	SSW.	75	79.5	80.0	75.0	78.1	904	890	816	870	74	63	82	73	.26	4	2	8	Ck, b.	Ck, b.	Pk, o, r.																																																																																																																																																																																																																																																								
24	959	726	889	858	82.5	88.5	76.5	80.0	91.5	72.5	19.0	145.0	53.5	67.0	5.5	SSW.	SSW.	SSW.	45	79.5	78.0	74.0	77.1	952	818	807	859	87	61	88	78	1.21	4	4	10	Cs, K, b.	Pk, b.	Po, r.																																																																																																																																																																																																																																																								
25	915	720	887	840	76.5	88.5	73.0	78.6	90.5	70.5	20.0	140.0	49.5	67.0	3.5	SSW.	NNE.	NNW.	50	74.0	78.0	76.0	76.0	807	818	858	827	88	61	87	78	...	4	4	0	Cs, K, b.	Pk, b.	b.																																																																																																																																																																																																																																																								
26	994	810	942	915	85.5	88.0	79.5	81.1	90.5	71.5	19.0	154.0	63.5	63.0	3.5	SSW.	NNW.	SSW.	75	78.5	79.5	75.5	77.8	866	879	816	853	72	67	82	70	...	6	4	0	Cs, K, c.	Ck, b.	b.																																																																																																																																																																																																																																																								
27	995	794	913	900	85.5	89.5	81.0	82.1	92.5	71.5	21.0	155.0	62.5	67.0	4.5	SSW.	NNW.	NNE.	100	78.0	77.5	77.5	78.0	859	857	875	863	70	63	83	72	...	4	6	0	Cs, K, b.	Ck, c.	b.																																																																																																																																																																																																																																																								
28	918	703	896	839	85.5	88.5	79.5	81.2	92.5	71.5	21.0	153.0	60.5	68.0	4.5	NNE	NNE.	E.	125	78.5	80.0	76.5	78.5	866	910	858	878	72	68	87	75	...	2	6	0	Cs, K, b.	Pk, c.	b.																																																																																																																																																																																																																																																								
Mean.	29.944	29.765	29.871	29.860	82.8	87.9	78.5	80.2	90.6	71.8	18.8	145.5	54.9	67.9	3.8				70	78.0	79.0	75.3	77.3	854	863	829	847	77	66	85	76	Total.	4	4	6																																																																																																																																																																																																																																																											
																																																																																																																																																																																																																																																																																														</

Highest Atmospheric Pressure 29.998 Inches.  
 Lowest Atmospheric Pressure 29.688 "  
 In the shade, { Highest Temperature 92.5 Fah.  
 { Lowest Temperature 70.5 "  
 Greatest Fall of Rain in 24 hours 1.25 Inches.

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE BUKIT MINYAK OBSERVATORY, FOR THE MONTH OF MARCH, 1890.

5°21' N. Lat., 100°30' E. Long.

Height of Bar Cistern above Sea Level, 43 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				Velo- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN  INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			Total Miles.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
																9 H.	15 H.	21 H.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.		9 H.	15 H.	21 H.		°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%		9 H.	15 H.	21 H.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

Highest Atmospheric Pressure 29.959 Inches.  
 Lowest Atmospheric Pressure 29.730 "  
 In the shade, { Highest Temperature 94.0° Fah.  
 { Lowest Temperature 70.0° "  
 Greatest Fall of Rain in 24 hours 1.00 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE BUKIT MINYAK OBSERVATORY, FOR THE MONTH OF APRIL, 1890.

5°22' N. Lat., 100°30' E. Long.

Height of Bar Cistern above Sea Level, 43 ft.

DATE	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Velo- city.  Total Miles.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN  INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Diference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.	
																9 H.	15 H.																					21 H.
1	29.889	29.820	29.857	29.855	86.0	86.0	80.0	81.3	93.0	75.0	18.0	148.0	55.0	71.0	4.0	NNW.	SW.	SW.	75	81.0	81.0	78.0	80.0	.992	.992	.933	.972	30	80	91	83	...	0	0	4	b.	b.	Cs, k, b.
2	.841	.807	.831	.826	89.0	90.0	83.0	84.2	92.0	76.0	16.0	149.0	57.0	72.0	4.0	SSW.	SSW.	SSW.	95	83.0	83.0	80.0	82.0	1.049	1.035	.955	1.023	77	73	87	79	...	0	0	8	b.	b.	Pk, o, r.
3	.907	.698	.842	.815	86.0	91.0	77.0	82.2	92.0	76.0	16.0	145.0	53.0	73.0	3.0	SW.	SW.	SW.	103	80.0	81.0	75.0	78.2	.944	.924	.843	.900	76	63	91	76	.05	8	2	8	Pk, o.	Pk, b.	Pk, o, r.
4	.864	.744	.824	.810	85.0	89.0	80.0	82.2	89.0	76.0	13.0	135.0	46.0	73.0	3.0	SW.	SW.	SW.	123	79.0	80.0	78.0	79.0	.911	.903	.933	.915	76	66	91	77	...	4	6	6	Pk, b.	Ck, c.	Ck, c.
5	.835	.732	.775	.780	86.0	89.0	82.0	83.0	91.0	75.0	16.0	139.0	48.0	72.0	3.0	SW.	SW.	SW.	125	79.0	80.0	76.0	78.1	.898	.903	.818	.873	72	66	75	71	1.75	2	6	10	Cs, k, b.	Pk, c.	Poltor.
6	.829	.758	.821	.802	87.0	91.0	78.0	82.2	92.0	74.0	18.0	146.0	54.0	70.0	4.0	SW.	W.	SW.	90	81.0	82.0	74.0	79.0	.978	.972	.788	.912	76	67	82	75	...	4	4	6	Ck, b.	Ck, b.	Ck, c.
7	.850	.739	.817	.803	88.0	87.0	79.0	82.1	91.0	75.0	16.0	135.0	44.0	71.0	4.0	SW.	SW.	SW.	65	82.0	81.0	76.0	79.2	1.013	.978	.858	.949	76	76	87	79	.53	4	6	8	Cs, k, b.	Pk, c, d.	Pk, o, r.
8	.829	.690	.774	.764	85.0	86.0	79.0	81.2	91.0	76.0	15.0	139.0	48.0	73.0	3.0	SW.	SW.	SW.	85	80.0	80.0	76.0	78.2	.958	.944	.858	.929	79	76	87	80	...	2	6	6	Ck, b.	Ck, c.	Ck, c.
9	.882	.724	.806	.804	81.0	81.0	79.0	79.0	87.0	75.0	12.0	123.0	36.0	72.0	3.0	SW.	SW.	SW.	90	79.0	79.0	77.0	78.1	.966	.966	.902	.944	91	91	91	91	...	2	4	6	Cs, k, b.	Ck, b.	Pk, c.
10	.825	.691	.779	.765	85.0	88.0	80.0	82.1	90.0	76.0	14.0	140.0	50.0	73.0	3.0	SW.	SW.	SW.	125	80.0	82.0	76.0	79.1	.958	1.013	.845	.938	79	76	82	79	.13	8	6	8	Pk, o, r.	Pk, c.	Pk, o, r.
11	.806	.693	.791	.763	83.0	81.0	78.0	80.2	90.0	75.0	15.0	139.0	49.0	72.0	3.0	NW.	SW.	SW.	75	81.0	76.0	75.0	77.1	.965	.831	.829	.875	73	78	86	79	...	2	6	6	Ck, b.	Ck, c.	Ck, c.
12	.837	.757	.839	.811	83.0	89.0	80.0	81.3	90.0	75.0	15.0	140.0	50.0	72.0	3.0	SW.	SW.	SW.	55	78.0	81.0	76.0	78.1	.893	.951	.845	.896	79	69	82	76	...	4	4	8	Cs, k, b.	Ck, b.	Pk, c.
13	.844	.763	.832	.813	82.0	89.0	84.0	82.2	91.0	75.0	16.0	147.0	56.0	72.0	3.0	SW.	W.	SW.	60	79.0	79.0	80.0	79.1	.952	.857	.971	.926	87	63	83	77	.15	4	6	8	Ck, b.	Pk, c.	Pk, o, r.
14	.897	.745	.869	.837	87.0	92.0	80.0	83.2	93.0	75.0	18.0	148.0	55.0	72.0	3.0	SW.	SW.	SW.	105	81.0	82.0	76.0	79.2	.978	.959	.845	.927	76	64	82	74	1.53	0	6	10	b.	Pk, c.	Po, r.
15	.883	.769	.861	.837	83.0	91.0	82.0	84.1	92.0	76.0	16.0	143.0	56.0	73.0	3.0	SW.	SW.	SW.	45	81.0	81.0	77.0	79.2	.965	.924	.862	.917	73	63	79	71	.14	0	4	8	b.	Pk, b.	Pk, o, r.
16	.899	.799	.874	.854	87.0	92.0	82.0	83.3	91.0	74.0	17.0	147.0	56.0	71.0	3.0	SW.	SW.	SW.	80	80.0	82.0	77.0	79.2	.931	.959	.862	.917	72	64	79	71	...	0	6	6	b.	Ck, c.	Pk, c.
17	.903	.783	.894	.860	79.0	87.0	86.0	80.1	92.0	75.0	17.0	144.0	52.0	72.0	3.0	W.	W.	SW.	85	77.0	79.0	75.0	77.0	.902	.884	.802	.852	91	69	78	79	.33	2	4	10	Ck, b.	Pk, b.	Pk, o, r.
18	.889	.792	.885	.855	79.0	90.0	79.0	80.2	92.0	74.0	18.0	151.0	59.0	70.0	4.0	SW.	SW.	SW.	90	76.0	80.0	76.0	77.1	.858	.890	.858	.868	57	63	87	79	...	2	2	6	Ck, b.	Ck, b.	Ck, c.
19	.977	.782	.824	.827	85.0	91.0	79.0	82.2	91.0	75.0	16.0	145.0	54.0	71.0	4.0	SW.	SW.	SW.	105	80.0	82.0	76.0	79.1	.958	.972	.858	.929	79	67	87	77	.06	2	4	6	Ck, b.	Pk, b.	Pk, c, r.
20	.891	.792	.819	.834	87.0	90.0	80.0	83.1	91.0	76.0	15.0	145.0	54.0	72.0	4.0	SW.	SW.	SW.	125	81.0	82.0	76.0	79.2	.978	.986	.845	.936	76	70	82	76	.12	2	4	8	Cs, k, b.	Pk, b.	Pk, o, r.
21	.899	.796	.816	.837	88.0	85.0	79.0	81.2	89.0	74.0	15.0	144.0	55.0	70.0	4.0	SW.	SW.	SW.	60	81.0	80.0	75.0	78.2	.965	.958	.816	.913	73	79	82	78	.09	2	6	6	Ck, b.	Pk, c.	Pk, c, r.
22	.820	.755	.812	.795	86.0	91.0	80.0	83.0	92.0	75.0	17.0	145.0	53.0	72.0	3.0	SW.	SW.	SW.	45	80.0	82.0	76.0	79.1	.944	.972	.845	.920	76	67	82	75	.37	2	6	8	Ck, b.	Pk, c, r.	Pk, o, r.
23	.886	.788	.825	.833	85.0	90.0	80.0	82.2	91.0	75.0	16.0	148.0	57.0	72.0	3.0	SW.	SW.	SW.	75	80.0	81.0	76.0	79.0	.958	.937	.845	.913	79	66	82	75	...	2	6	0	Ck, b.	Ck, c.	b.
24	.915	.776	.836	.842	80.0	86.0	79.0	79.3	87.0	74.0	13.0	109.0	22.0	70.0	4.0	SW.	SW.	SW.	45	78.0	80.0	77.0	78.1	.933	.944	.902	.926	91	76	91	86	...	2	4	6	Ck, b.	Ck, b.	Ck, c.
25	.876	.798	.847	.840	80.0	85.0	81.0	80.0	91.0	74.0	17.0	145.0	54.0	71.0	3.0	SW.	SW.	SW.	35	76.0	80.0	77.0	77.2	.845	.958	.875	.892	52	79	83	81	.30	6	4	8	Pk, c, r.	Pk, b.	Pk, o, r.
26	.871	.785	.804	.820	86.0	88.0	79.0	81.3	89.0	74.0	15.0	139.0	50.0	71.0	3.0	SW.	SW.	SW.	65	81.0	80.0	76.0	79.0	.992	.917	.858	.922	50	69	87	78	...	0	2	6	b.	Ck, b.	Ck, c.
27	.856	.778	.801	.811	80.0	85.0	79.0	79.2	89.0	74.0	15.0	138.0	49.0	71.0	3.0	SSW.	SW.	SW.	95	76.0	80.0	75.5	77.1	.845	.958	.822	.875	52	79	84	81	...	4	4	6	Cs, k, b.	Pk, b.	Ck, c.
28	.877	.776	.811	.821	81.0	80.0	79.0	78.3	95.0	75.0	20.0	155.0	60.0	71.0	4.0	SSW.	SSW.	SSW.	50	78.0	76.0	75.5	76.5	.902	.845	.822	.862	87	82	84	84	...	2	4	4	Ck, b.	Cb.	Ck, b.
29	.854	.775	.813	.814	85.0	85.5	80.5	81.1	90.5	74.0	16.5	140.0	49.5	71.0	3.0	SSW.	SSW.	SSW.	65	80.0	80.5	76.5	79.0	.958	.958	.845	.920	79	79	82	80	...	2	4	4	Ck, b.	Ck, b.	Pk, b.
30	.851	.720	.821	.795	85.5	88.5	79.5	81.6	91.5	74.0	17																											

Highest Atmospheric Pressure 29.977 Inches.  
 Lowest Atmospheric Pressure 29.0 "  
 In the shade, } Highest Temperature 95.0° Fah.  
 } Lowest Temperature 74.0 "  
 Greatest Fall of Rain in 24 hours 2.20 Inches.

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
 Colonial Surgeon.



METEOROLOGICAL RESULTS OF THE BUKIT MINYAK OBSERVATORY, FOR THE MONTH OF MAY, 1890.  
 5° 22' N. Lat., 100° 30' E. Long. Height of Bar Cistern above Sea Level, 43 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Velo- city.  Total Miles.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN  INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.							
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	9 H.	15 H.		21 H.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	SSW.	SSW.	SSW.	50.0	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	...	2	4	4	Ck, b.	Ck, b.	Ck, b.				
2	.885	.741	.819	.815	85.5	82.5	78.5	79.7	91.5	72.5	19.0	144.0	52.5	69.5	3.0	SSW.	SSW.	SSW.	65.0	78.5	79.0	75.5	77.6	.866	.945	.829	.886	72	85	66	81	.48	4	8	8	Pk, b.	Pk, o. r.	Pk, o. r.				
3	.932	.766	.877	.858	88.5	84.5	79.5	81.3	92.5	73.0	19.5	147.0	51.5	70.0	3.0	SSW.	SSW.	SSW.	80.0	79.5	76.5	75.5	77.1	.871	.791	.816	.826	67	63	82	72	...	2	4	4	Ck, b.	Pk, b.	Ck, b.				
4	.881	.709	.774	.788	79.5	87.5	78.5	79.5	91.5	72.5	19.0	144.0	52.5	70.0	2.5	SSW.	SSW.	SSW.	105.0	76.5	79.5	75.0	77.0	.858	.884	.829	.857	87	69	86	80	...	2	2	6	Ck, b.	Pk, b.	Pk, c.				
5	.910	.699	.818	.809	84.5	88.0	80.0	81.5	92.5	73.5	19.0	157.0	64.5	70.5	3.0	SSW.	SSW.	SSW.	60.0	76.5	78.5	75.5	76.8	.791	.832	.809	.810	68	64	80	70	...	2	4	4	Cs, k. b.	Pk, b.	Ck, b.				
6	.864	.714	.814	.797	78.5	88.0	81.5	80.1	92.5	72.5	20.0	150.0	57.5	70.0	2.5	SSW.	SSW.	SSW.	55.0	75.5	79.5	76.5	77.1	.829	.877	.831	.845	56	67	78	77	.16	4	4	8	Ck, b.	Pk, b.	Pk, o. r.				
7	.916	.696	.812	.808	88.5	87.5	83.0	84.3	91.0	74.5	16.5	130.0	39.0	70.0	4.5	SSW.	SSW.	SSW.	95.0	79.5	78.5	77.0	78.3	.871	.871	.848	.863	66	65	75	63	...	4	6	6	Ck, b.	Pk, c.	Pk, c.				
8	.932	.701	.822	.818	87.5	84.5	78.5	81.0	92.0	73.5	18.5	143.0	51.0	70.0	3.5	SSW.	SSW.	SSW.	60.0	78.5	76.5	75.0	76.6	.838	.791	.822	.817	65	68	84	72	...	2	2	4	Ck, b.	Ck, b.	Pk, b.				
9	.935	.719	.845	.866	86.5	87.5	81.0	82.1	92.5	73.5	19.0	150.0	57.5	70.0	3.5	SSW.	SSW.	WSW.	85.0	79.0	79.5	76.5	78.3	.891	.881	.838	.871	70	69	80	73	...	2	4	6	Ck, b.	Ck, b.	Ck, c.				
10	.954	.794	.864	.870	81.5	86.5	79.5	80.2	92.0	73.5	18.5	148.0	56.0	70.5	3.0	SSW.	SSW.	SSW.	45.0	76.5	78.5	75.5	76.6	.831	.893	.809	.846	78	72	80	76	...	2	2	6	Ck, b.	Ck, b.	Ck, c.				
11	.907	.737	.830	.824	82.5	86.5	80.0	80.5	92.5	73.0	19.5	150.0	57.5	70.0	3.0	SSW.	NNW.	SSW.	75.0	76.5	79.5	75.0	77.0	.818	.898	.895	.870	75	72	89	78	...	2	4	4	Cs, k. b.	Pk, b.	Ck, b.				
12	.916	.709	.829	.818	84.0	87.5	81.5	81.6	92.0	73.5	18.5	160.0	68.0	69.0	4.5	SSW.	SSW.	SSW.	40.0	79.0	79.5	77.5	78.6	.925	.877	.831	.877	79	67	78	74	...	2	2	0	Cs, k. b.	Ck, b.	b.				
13	.948	.735	.827	.836	85.5	88.0	82.5	82.3	92.0	73.5	18.5	149.0	57.0	69.0	4.5	SSW.	SSW.	SSW.	60.0	78.5	79.5	76.5	78.0	.866	.871	.775	.837	72	66	71	69	1.42	4	8	6	Cs, k. b.	Pk, o. r.	Pk, c.				
14	.957	.711	.856	.841	81.5	85.5	80.5	80.1	92.0	73.0	19.0	153.0	61.0	70.0	3.0	SSW.	SSW.	SSW.	75.0	70.5	79.5	75.5	77.1	.831	.911	.802	.848	78	76	78	77	1.40	2	6	8	Cs, k. b.	Pk, o. r.	Pk, o. r.				
15	.929	.737	.845	.837	79.0	85.5	81.0	79.8	90.0	74.0	16.0	151.0	61.0	70.0	4.0	SSW.	WSW.	SSW.	60.0	75.5	78.5	76.5	76.8	.852	.866	.838	.852	55	72	80	79	...	4	6	6	Cs, k. b.	Pk, c.	Pk, c.				
16	.903	.725	.846	.824	81.0	82.0	80.0	79.1	90.0	73.5	16.5	148.0	58.0	69.5	4.0	SSW.	WSW.	SSW.	80.0	76.5	77.5	75.5	76.5	.838	.868	.809	.838	50	81	80	80	.55	4	6	8	Cs, k. b.	Pk, c.	Pk, o. r.				
17	.859	.723	.828	.803	81.0	82.0	80.5	78.7	88.0	71.5	16.5	150.0	62.0	68.0	3.5	SSW.	SSW.	SSW.	125.0	75.5	76.5	76.0	76.0	.795	.825	.838	.813	76	77	80	77	.25	4	6	8	Pk, b.	Pk, c.	Pk, o. r.				
18	.912	.711	.836	.819	82.5	81.0	76.0	77.8	85.0	72.0	13.0	150.0	65.0	69.0	3.0	SSW.	SSW.	SSW.	95.0	78.5	76.5	73.5	76.1	.906	.838	.780	.838	33	30	38	83	.38	6	6	8	Pk, c. d.	Pk, c. d.	Pk, o. r.				
19	.952	.726	.864	.840	77.0	83.5	76.5	77.3	89.0	72.5	16.5	130.0	41.0	69.0	3.5	SSW.	SSW.	SSW.	55.0	74.5	76.5	73.5	74.8	.807	.798	.773	.792	38	69	86	81	...	6	6	6	Cs, k. c.	k, c.	Ck, c.				
20	.899	.703	.795	.799	80.0	80.5	78.0	78.0	85.0	73.5	11.5	154.0	69.0	70.0	3.5	SSW.	WSW.	SSW.	75.0	75.5	76.0	73.5	75.0	.809	.833	.753	.800	80	80	80	80	.10	4	8	6	Pk, b.	Pk, o. r.	Ck, c.				
21	.926	.723	.854	.836	82.0	83.5	80.0	80.8	90.0	73.0	17.0	153.0	63.0	70.0	3.0	SSW.	NNW.	SSW.	100.0	76.0	78.5	75.0	76.5	.818	.825	.802	.815	75	62	78	71	...	2	4	4	Ck, b.	Pk, b.	Ck, b.				
22	.955	.750	.862	.855	84.5	85.5	82.0	81.2	89.0	73.0	16.0	148.0	59.0	69.5	3.5	SSW.	SSW.	SSW.	65.0	76.5	78.5	75.5	76.8	.791	.866	.780	.813	68	72	73	71	...	2	2	6	Ck, b.	Ck, b.	Ck, c.				
23	.905	.758	.855	.839	81.5	88.0	82.0	82.1	90.0	74.0	16.0	155.0	65.0	70.0	4.0	SSW.	SSW.	SSW.	45.0	77.5	79.5	76.5	77.8	.834	.877	.825	.845	72	67	77	72	1.04	2	6	10	Ck, b.	Pk, c.	Pk, o. r.				
24	.947	.714	.860	.840	82.5	87.5	80.0	81.0	89.0	74.0	15.0	143.0	54.0	71.0	3.0	SSW.	SSW.	SSW.	75.0	76.5	78.5	75.5	76.8	.818	.871	.809	.832	75	65	80	73	.82	2	6	10	Ck, b.	Ck, c.	Po, r.				
25	.950	.727	.857	.844	81.5	86.5	79.5	80.3	90.0	74.0	16.0	155.0	65.0	70.0	4.0	SSW.	SSW.	SSW.	85.0	76.0	79.0	75.5	76.6	.825	.891	.809	.841	77	70	80	75	...	2	2	4	Ck, b.	Ck, b.	Pk, b.				
26	.934	.706	.848	.829	82.5	88.5	80.0	81.2	89.0	74.0	15.0	144.0	55.0	69.0	5.0	SSW.	SSW.	SSW.	75.0	77.0	79.0	75.5	77.1	.855	.864	.809	.842	77	64	80	73	...	2	2	0	Ck, b.	Ck, b.	b.				
27	.920	.703	.838	.820	86.0	87.5	81.5	82.3	90.5	74.5	16.0	141.0	53.5	70.0	4.5	SSW.	SSW.	SSW.	55.0	79.0	79.5	76.5	78.3	.904	.834	.831	.873	72	69	78	73	...	2	6	0	Ck, b.	Ck, c.	b.				
28	.901	.729	.873	.834	83.5	87.5	82.0	81.6	90.0	73.5	16.5	152.0	62.0	69.0	4.5	SSW.	WSW.	WSW.	60.0	78.5	79.5	77.5	78.5	.893	.884	.862	.879	79	69	79	75	...	2	4	6	Cs, k. b.	Ck, b.	Ck, c.				
29	.889	.720	.816	.808	86.0	86.5	81.5	82.1	90.5	74.5	16.0	148.0	57.5	70.0	4.5	WSW.	SSW.	SSW.	70.0	79.0	79.5	76.5	77.6	.																		

Highest Atmospheric Pressure 29.957 Inches.  
 Lowest Atmospheric Pressure 29.696 "  
 In the shade, { Highest Temperature 92.5° Fah.  
 { Lowest Temperature 71.5° "  
 Greatest Fall of Rain in 24 hours 1.42 Inche

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
 Colonial Surgeon.



METEOROLOGICAL RESULTS OF THE BUKIT MINYAK OBSERVATORY, FOR THE MONTH OF JUNE, 1890.  
*5° 22' N. Lat., 100° 30' E. Long.*  
*Height of Bar Cistern above Sea Level, 43 ft.*

5° 22' N. Lat., 100° 30' E. Long.																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch- es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																																																									
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.

Highest Atmospheric Pressure 29.933 Inches  
 Lowest Atmospheric Pressure 29.679 "  
 In the Shade { Highest Temperature 90.5° Fah.  
 Lowest Temperature 72.° "  
 Greatest Fall of Rain in 24 hours 3.21 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
*Colonial Surgeon*



# METEOROLOGICAL RESULTS OF THE BUKIT MINYAK HOSPITAL OBSERVATORY, FOR THE MONTH OF JULY, 1890.

5° 21' N. Lat., 100° 30' E. Long.

Height of Bar Cistern above Sea Level, 43 ft.

DATE	BALOMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN  INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.						
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			Velo- city.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																								
1	29.867	29.749	29.811	29.809	85.0	88.0	81.5	82.2	91.5	74.5	17.0	164.0	72.5	70.5	4.0	NNE.	NNE.	NNE.	150.0	79.5	78.5	74.5	77.5	918	832	747	832	77	64	71	70	...	2	4	6	Ck, b.	Pk, b.	Ck, c.				
2	842	730	805	792	85.5	88.5	79.5	81.6	89.0	73.0	16.0	155.0	66.0	69.0	4.0	NNE.	ENE.	NNE.	160.0	79.5	78.5	74.0	77.3	911	825	767	834	76	62	76	71	...	2	4	6	Ck, b.	Ck, b.	Ck, c.				
3	820	759	790	789	84.5	89.0	80.5	81.8	90.5	73.5	17.0	145.0	54.5	69.0	4.5	NNE.	NNE.	NNE.	150.0	79.0	78.0	74.5	77.1	918	811	760	829	77	59	74	70	23	2	4	8	Ck, b.	Pk, l.	Po, r.				
4	857	737	814	802	84.5	88.0	80.0	81.5	90.5	73.5	17.0	163.0	72.5	69.0	4.5	NNE.	NNE.	NNE.	100.0	76.5	79.5	75.0	77.0	791	879	802	824	68	67	78	71	15	6	6	6	Pk, e. r.	Pk, e. r.	Ck, c.				
5	852	740	795	795	83.5	88.5	80.5	81.5	90.0	73.5	16.5	145.0	55.0	69.0	4.5	NNE.	NNE.	NNE.	120.0	76.0	78.5	76.0	76.8	828	825	838	830	69	62	80	70	1.12	2	2	10	Ck, b.	Pk, b.	Po, r.				
6	839	798	824	820	84.0	89.0	80.0	81.7	90.0	74.0	16.0	144.0	54.0	69.0	5.0	NNE.	ENE.	ENE.	125.0	76.5	79.0	74.5	76.6	798	857	769	808	68	63	76	69	...	2	4	6	Ck, b.	Pk, b.	Pk, c.				
7	910	732	862	834	83.5	86.5	79.5	80.3	90.0	72.0	18.0	163.0	73.0	68.0	4.0	NNE.	ENE.	NNE.	115.0	76.5	78.5	75.5	76.8	804	852	816	824	71	68	82	73	...	2	4	6	Ck, b.	Ck, b.	Ck, c.				
8	895	722	846	821	84.0	88.0	79.0	81.0	90.0	73.0	17.0	150.0	60.0	69.0	4.0	NNE.	NNE.	NNE.	125.0	78.0	79.5	75.5	77.6	879	879	822	860	75	67	84	75	...	2	4	6	Ck, .	Pk, b.	Ck, c.				
9	834	756	800	796	83.5	88.0	78.5	80.5	90.0	72.0	18.0	155.0	65.0	69.0	3.0	NNE.	NNE.	ENE.	110.0	76.0	78.0	74.5	76.1	798	825	787	803	69	62	82	71	...	2	6	6	Ck, b.	Ck, c.	Ck, c.				
10	820	731	814	788	84.0	88.0	80.0	81.0	90.0	72.0	18.0	160.0	70.0	68.0	4.0	NNE.	NNE.	NNE.	125.0	78.0	79.0	76.5	77.8	879	871	852	867	75	66	85	75	...	2	2	4	Ck, b.	Ck, b.	Pk, b.				
11	871	754	842	822	82.5	86.0	80.0	80.1	90.0	72.0	18.0	140.0	50.0	69.0	3.0	NNE.	ENE.	NNE.	110.0	76.5	78.5	75.5	76.8	818	859	809	828	75	70	80	75	...	2	4	6	Ck, b.	Ck, b.	Ck, c.				
12	917	722	844	827	83.0	86.0	80.0	80.5	89.0	73.0	16.0	153.0	64.0	69.0	4.0	ENE.	NNE.	NNE.	110.0	76.0	77.5	75.5	76.3	804	814	809	802	71	66	80	72	...	2	2	4	Ck, b.	Ck, b.	Pk, b.				
13	889	744	819	817	83.0	88.0	79.0	80.7	89.0	73.0	16.0	150.0	61.0	69.0	4.0	NNE.	NNE.	ENE.	115.0	76.0	78.5	75.0	76.5	804	832	816	817	71	63	82	75	...	2	4	6	Ck, b.	Pk, b.	Ck, c.				
14	860	729	816	801	84.0	87.0	80.0	81.0	90.0	73.0	17.0	155.0	65.0	69.0	4.0	NNE.	ENN.	NNE.	115.0	77.0	78.0	75.5	76.8	834	838	809	827	72	65	80	72	...	2	6	6	Ck, b.	Pk, c	Pk, c.				
15	835	710	805	783	82.0	87.0	80.0	80.5	89.0	73.0	16.0	135.0	46.0	69.0	4.0	ENE.	NNE.	ENE.	125.0	77.5	78.5	76.0	77.3	868	845	845	852	77	67	82	76	62	4	8	8	Cs, k. b.	Pk, o. r.	Po, r.				
16	865	766	825	818	78.0	86.0	80.0	79.2	90.0	73.0	17.0	140.0	50.0	69.0	4.0	ENE.	NNE.	NNE.	115.0	75.0	79.0	76.0	76.6	829	895	845	856	76	72	82	80	28	4	6	8	Cs, k. b.	Pk, c.	Po, r.				
17	825	791	811	809	82.0	86.0	81.0	80.5	89.0	73.0	16.0	155.0	66.0	69.0	4.0	NNE.	NNE.	ENE.	110.0	77.0	78.0	75.0	76.6	862	852	829	847	79	68	86	77	...	2	4	6	Ck, b.	Pk, b.	Ck, c.				
18	843	773	834	816	83.0	87.0	80.0	80.7	89.0	73.0	16.0	128.0	39.0	69.0	4.0	NNE.	ENE.	ENE.	110.0	76.5	78.5	76.0	77.0	811	845	845	833	73	67	82	74	...	2	6	6	Cs, k. b.	Pk, c.	Pk, c.				
19	895	753	848	832	83.0	87.0	80.0	80.7	88.0	73.0	15.0	120.0	32.0	69.0	4.0	NNE.	ENE.	NNE.	115.0	77.0	78.0	75.0	76.6	848	838	802	829	75	65	78	72	08	2	8	6	Cs, k. b.	Pk, o. r.	Ck, c.				
20	906	777	884	855	84.0	88.0	80.0	81.0	89.0	72.0	17.0	145.0	56.0	69.0	3.0	NNE.	ENE.	NNE.	120.0	78.0	79.0	76.0	77.6	879	871	845	865	75	66	82	74	...	2	4	6	Cs, k. b.	Pk, b.	Ck, c.				
21	915	780	886	860	84.0	87.0	81.0	81.2	89.0	73.0	16.0	130.0	41.0	69.0	4.0	NNE.	NNE.	NNE.	120.0	79.0	80.0	77.0	78.6	925	931	875	910	79	72	83	78	...	2	6	6	Cs, k. b.	Pk, c.	Ck, c.				
22	899	762	862	841	83.0	86.0	80.0	80.5	89.0	73.0	16.0	140.0	41.0	69.0	4.0	NNE.	ENE.	NNE.	115.0	76.0	78.0	75.0	76.3	804	852	802	819	71	68	78	72	...	2	4	6	Cs, k. b.	Pk, b.	Pk, c.				
23	913	690	883	828	84.0	88.0	79.0	81.0	89.0	73.0	16.0	156.0	67.0	69.0	4.0	ENE.	NNE.	NNE.	110.0	79.0	78.5	74.5	77.3	925	832	780	845	79	61	80	74	...	2	2	4	Ck, b.	Ck, b.	Pk, b.				
24	884	693	840	805	83.5	88.0	80.0	80.8	89.0	72.0	17.0	130.0	41.0	69.0	3.0	NNE.	NNE.	NNE.	120.0	76.5	78.5	75.5	76.8	804	832	809	815	71	64	80	71	84	2	8	10	Cs, k. b.	Pk, o. r.	Po, r.				
25	874	702	810	795	84.0	87.0	79.0	80.7	89.0	73.0	16.0	160.0	71.0	70.0	3.0	NNE.	ENE.	NNE.	120.0	79.0	78.5	75.0	77.5	925	845	816	862	79	67	82	76	...	2	4	4	Ck, b.	Pk, b.	Pk, b.				
26	866	763	825	818	83.0	85.0	79.0	79.7	89.0	72.0	17.0	135.0	46.0	69.0	3.0	NNE.	ENE.	NNE.	115.0	78.0	77.0	75.0	76.6	893	821	816	843	79	68	82	76	50	2	8	10	Cs, k. b.	Pk, o. r.	Po, r.				
27	875	721	864	820	85.0	88.0	80.0	81.5	89.0	73.0	16.0	150.0	61.0	69.0	4.0	NNE.	NNE.	ENE.	125.0	77.0	76.0	74.5	75.8	821	737	767	77.5	68	66	76	66	55	2	6	10	Cs, k. b.	Pk, c.	Po, r.				
28	866	729	816	803	82.0	87.0	80.0	80.5	89.0	73.0	16.0	155.0	66.0	69.0	4.0	ENE.	ENE.	NNE.	120.0	78.0	79.0	75.0	77.3	906	884	802	864	73	69	78	76	1.35	4	6	10	Cs, k. b	Pk, c.	Po, r.				
29	851	719	842	804	83.0	87.0	80.0	80.5	90.0	72.0	18.0	140.0	50.0	69.0	3.0	NNE.	NNE.	NNE.	115.0	77.0	78.0	74.5	76.5	848	838	767	811	75	65	76	72	6.22	8	6	10	Pk, o. r.	Pk, c.	Po, r.				
30	848	756	813	805	82.0	88.0	79.0	80.5	89.0	73.0	16.0	155.0	66.0	70.0	3.0	NNE.	ENE.	NNE.	110.0	77.5	79.0	74.5	77.0	868	871																	

Highest Atmospheric Pressure 29.917 Inches.

Lowest Atmospheric Pressure 29.690 "

In the shade, { Highest Temperature 91.5 Fah.

Lowest Temperature 72.0 "

Greatest Fall of Rain in 24 hours 6.22 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE BUKIT MERTAJAM OBSERVATORY, FOR THE MONTH OF AUGUST, 1890.

5° 21' N. Lat., 100° 28' E. Long.

Height of Bar Cistern above Sea Level, ft.

DATE	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Veio- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.

Highest Atmospheric Pressure 29.945 Inches.

Lowest Atmospheric Pressure 29.715 "

In the shade, { Highest Temperature 90.° Fah.

Lowest Temperature 72.° "

Greatest Fall of Rain in 24 hours 1.29 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE BUKIT MERTAJAM HOSPITAL OBSERVATORY, FOR THE MONTH OF SEPTEMBER, 1890.

5° 21' N Lat., 100° 28' 38" E. Long.

Height of Bar Cistern above Sea Level, 43 ft.

DATE	BAROMETER — REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch. es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.			
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	29.866	29.780	29.832	29.826	83.0	86.0	81.0	80.7	90.0	73.0	17.0	146.0	55.9	69.0	4.0	ENE.	NNE.	ENE.	150	77.0	79.0	76.5	77.5	84.8	89.0	83.0	86.1	75	72	80	75	.15	2	4	8	Cs. k, b.	Pk, b.	Pc, o, r.	
2	83.5	76.0	81.5	80.3	83.0	86.0	80.0	80.5	89.0	73.0	16.0	140.0	51.0	70.0	3.0	NNE.	ENE.	NNE.	115	79.0	80.0	75.5	78.1	93.8	94.4	80.0	89.7	83	76	80	79	...	2	6	6	Ck, b.	Pk, c.	Pk, c.	
3	86.3	79.0	78.9	78.1	81.0	81.0	79.0	79.2	90.0	73.0	17.0	145.0	55.0	70.0	3.0	NNE.	NNE.	ENE.	120	73.0	79.0	76.0	77.6	92.0	92.5	85.0	90.1	87	79	87	84	.01	4	6	8	Cs, b, b.	Pk, c.	Pc, o, d.	
4	79.5	69.3	74.5	74.7	84.0	87.0	78.0	80.5	92.0	73.0	19.0	150.0	58.0	70.0	3.0	NNE.	ENE.	NNE.	115	79.0	80.0	75.0	78.0	92.5	93.1	82.0	89.5	79	72	86	79	...	2	6	4	Ck, b.	Pk, c.	Pk, b.	
5	83.1	77.1	81.4	80.5	84.0	83.0	79.0	80.7	90.0	72.0	18.0	145.0	55.0	69.0	3.0	SSW.	ENE.	NNE.	120	79.0	80.0	74.5	77.8	92.5	91.7	79.4	87.8	70	60	84	77	...	6	6	4	Cs, k, c.	Pk, c.	Pk, c.	
6	89.5	75.3	80.9	81.9	83.0	87.0	73.0	80.2	89.0	73.0	16.0	135.0	46.0	69.0	4.0	SSW.	NNE.	ENE.	115	73.0	79.0	74.0	77.0	89.3	88.4	75.7	85.1	79	69	82	76	...	2	6	6	Ck, b.	Ck, c.	Ck, c.	
7	91.5	81.2	85.9	86.2	85.0	83.0	79.0	81.2	90.0	73.0	17.0	130.0	40.0	70.0	3.0	ENE.	NNE.	NNE.	120	79.0	80.0	75.5	78.1	91.1	91.7	82.2	88.3	76	69	81	76	...	4	6	6	Cs, k, b.	Ck, c.	Pk, c.	
8	92.5	83.2	91.7	89.1	84.0	87.0	80.0	81.1	90.0	73.5	16.5	135.0	45.0	69.0	4.5	NNE.	ENE.	NNE.	115	79.0	80.0	76.0	78.3	92.5	93.1	84.5	90.3	79	72	82	77	...	2	4	4	Ck, b.	Ck, b.	l k, b.	
9	85.6	72.3	81.6	79.8	82.0	84.0	80.0	80.0	89.0	74.0	15.0	138.0	49.0	70.0	4.0	NNE.	ENE.	NNE.	110	78.0	79.0	75.5	77.5	93	92.5	83.9	89.0	83	79	80	8	...	4	6	6	Ck, b.	Pk, c.	Pk, c.	
10	87.1	62.5	80.4	76.6	82.0	85.0	79.0	80.0	83.0	74.0	11.0	135.0	47.0	61.0	5.0	NNE.	ENE.	SSW.	120	78.0	79.0	75.0	77.3	90.0	91.1	81.6	87.5	83	76	82	80	...	4	8	6	Ck, b.	Pk, o.	Pk, c.	
11	89.5	77.2	84.8	83.4	81.0	83.0	78.0	81.5	89.0	74.0	15.0	140.0	51.0	69.0	5.0	NNE.	SSW.	ENE.	125	78.0	79.0	75.5	77.5	92.0	93.1	83.0	89.9	81	83	89	86	.20	4	6	8	Cs, k, b.	Pk, c.	Pk, o, r.	
12	87.1	79.1	86.4	82.2	82.0	81.0	76.0	78.2	90.0	74.0	16.0	140.0	50.0	71.0	3.0	NNE.	NNE.	NNE.	125	78.0	77.0	71.0	76.3	90.6	87.5	81.4	86.5	83	83	91	85	...	6	6	4	Pk, c.	Pk, c.	Pk, b.	
13	83.5	72.4	81.6	79.1	82.0	85.0	79.0	79.7	89.0	73.0	16.0	135.0	46.0	70.0	3.0	ENE.	NNE.	SSW.	115	78.0	79.0	76.0	77.6	90.6	91.1	85.8	89.1	85	76	81	82	...	2	6	6	Ck, b.	Ck, c.	Pk, c.	
14	87.8	63.9	85.8	80.8	83.0	80.0	77.0	78.5	87.0	74.0	13.0	130.0	43.0	69.0	5.0	NNE.	ENE.	SSW.	115	79.0	77.0	75.0	77.4	93	88.9	84.3	89.0	83	87	91	87	.58	8	6	4	Pk, o, r.	Pk, c.	Pk, b.	
15	81.9	70.2	80.5	77.5	80.0	84.0	78.0	81.2	89.0	73.0	16.0	130.0	41.0	70.0	3.0	NNE.	SSW.	ENE.	125	76.0	78.0	75.0	76.3	94.5	87.9	82.9	85.1	82	75	86	81	...	6	6	4	Cs, k, c.	Pk, c.	Pk, b.	
16	86.6	75.3	80.1	80.6	83.0	79.0	76.0	77.5	86.0	72.0	14.0	135.0	49.0	69.0	3.0	NNE.	ENE.	SSW.	115	78.0	76.0	74.0	76.0	89.3	85.8	81.4	85.5	79	87	91	85	...	4	6	4	Cs, k, b.	Ck, c.	Pk, b.	
17	88.1	79.1	80.4	82.6	80.0	88.0	78.0	79.7	90.0	73.0	17.0	141.0	51.0	70.0	3.0	NNE.	ENE.	NNE.	115	76.0	79.0	75.0	76.6	84	87.1	82.9	83.0	82	63	86	78	...	2	4	6	Ck, b.	Pk, b.	Pk, c.	
18	89.3	74.7	82.5	82.1	82.0	83.0	80.0	79.5	89.0	73.0	16.0	126.0	37.0	69.0	4.0	SSW.	ENE.	NNW.	120	78.0	79.0	76.0	77.6	90.6	93.8	81.5	89.6	83	83	85	84	...	2	6	6	Ck, b.	Ck, c.	Pk, c.	
19	92.6	82.2	84.0	86.2	84.0	80.0	78.0	78.7	89.0	73.0	16.0	130.0	41.0	69.0	4.0	NNE.	ENE.	SSW.	115	77.0	76.0	74.5	75.9	83.1	84.5	79.4	82.0	72	82	81	79	...	6	4	4	Cs, k, c.	Pk, b.	Pk, b.	
20	94.7	78.9	81.6	85.0	82.0	84.0	78.0	79.0	89.0	72.0	17.0	130.0	41.0	69.0	3.0	ENE.	SSW.	NNE.	120	78.0	79.0	75.5	77.5	90.6	92.5	83.9	89.0	83	79	89	83	.42	4	8	8	Cs, k, b.	Pk, o, r.	Pk, o, r.	
21	90.8	72.9	84.4	82.7	83.0	80.0	77.0	78.2	90.0	73.0	17.0	125.0	35.0	70.0	3.0	NNE.	ENE.	NNE.	125	78.0	76.0	74.5	76.1	89.3	84.5	80.0	84.8	79	82	88	83	.65	2	6	4	Pk, o, r.	Pk, c.	Pk, b.	
22	87.9	76.1	83.0	82.7	82.0	79.0	76.0	77.2	89.0	72.0	17.0	135.0	46.0	69.0	3.0	NNE.	ENE.	SSW.	115	78.0	74.5	73.5	75.3	90.6	87.0	73.0	82.2	83	80	88	83	...	4	6	6	Cs, k, b.	Ck, c.	Pk, o.	
23	86.2	77.2	83.2	82.2	85.0	84.0	77.0	79.7	90.0	73.0	17.0	140.0	50.0	76.0	3.0	SSW.	ENE.	NNE.	110	79.0	78.0	74.0	77.0	91.1	87.9	80.1	86.3	76	70	86	75	.03	6	4	4	Pk, c, d.	Pk, b.	Pk, b.	
24	84.8	75.7	83.5	81.1	82.0	84.0	78.0	79.2	89.0	73.0	16.0	135.0	46.0	70.0	3.0	NNE.	ENE.	NNE.	115	78.0	79.0	74.5	77.1	90.6	92.5	79.4	87.5	83	79	84	82	...	2	4	4	Cs, k, b.	Pk, b.	Pk, b.	
25	85.9	63.9	83.1	79.3	82.0	80.0	79.0	78.2	89.0	72.0	17.0	140.0	51.0	69.0	3.0	NNW.	ENE.	SSW.	120	77.0	76.0	74.5	75.8	86.2	84.5	78.0	82.9	79	82	80	80	...	2	4	6	Ck, b.	l k, b.	Pk, c.	
26	87.8	70.2	83.0	80.3	83.0	84.0	80.0	79.7	89.0	72.0	17.0	130.0	47.0	69.0	3.0	NNE.	ENE.	SSW.	110	79.0	78.0	76.0	77.6	93.8	83.9	84.5	88.1	83	75	82	80	.95	10	6	6	Po, r	Pk, c.	Pk, c.	
27	88.2	76.2	81.9	82.1	84.0	87.0	78.0	80.5	90.0	73.0	17.0	135.0	45.0	69.0	4.0	ENE.	NNW.	SSW.	115	78.0	79.0	75.5	77.5	87.9	83.1	83.0	86.7	75	69	89	77	.66	6	6	8	Cs, k, c.	Pk, c.	Po, r.	
28	87.1	69.3	81.0	79.1	82.0	83.0	79.0	80.6	89.0	72.0	17.0	120.0	31.0	69.0	3.0	ENE.	NNE.	ENE.	115	77.0	79.0	74.0	76.6	86.2	87.1	77.4	83.5	75	66	78	71	5.52	8	6	8	Po, r.	Pk, c.	Po, r.	
29	87.4	76.9	80.1	81.5	83.0	87.0	78.0	80.2	90.0	73.0	17.0	125.0	35.0	7																									

In the Shade { Highest Atmospheric Pressure 29.947 Inches  
 Lowest Atmospheric Pressure 29.625 "  
 Highest Temperature 92.0 Fah.  
 Lowest Temperature 72.0 "  
 Greatest Fall of Rain in 24 hours 5.52 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
Colonial Surgeon,



# METEOROLOGICAL RESULTS OF THE BUKIT MERTAJAM HOSPITAL OBSERVATORY, FOR THE MONTH OF OCTOBER 1890.

5° 21' N. Lat., 100° 28' 38" E. Long.

Height of Bar Cistern above Sea Level, 65 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		VEGETATION. Miles.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN INCHES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	In shade and shade.	Glass.	Difference shade and radiation.	DIRECTION.			9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.		
1	29.93	29.74	29.63	29.835	86.0	88.0	80.0	81.5	89.0	72.0	17.0	14.0	11.0	6.0	3.0	NNE	ENE	NNE	115	73.0	80.0	75.0	76.3	8.0	1.1	8.45	88.72	6.0	6.0	74	0.5	6	6	4	Pk. c, r	Pk. c.	Pk. b.
2	9.3	7.1	8.4	8.57	80.0	87.0	79.0	79.7	90.0	73.0	17.0	15.0	6.0	7.0	3.0	NNE	ENE	NNE	125	76.0	78.0	75.5	76.5	8.45	8.15	8.2	83.58	6.0	6.0	77	...	4	6	6	Ok. k. a	Ok. c.	Pk. c.
3	8.8	7.7	8.62	8.40	82.0	81.0	79.0	80.7	89.0	73.0	16.0	13.0	4.0	6.0	4.0	NNE	ENE	ENE	120	78.0	79.0	76.0	77.6	9.06	9.25	8.58	89.83	7.0	6.0	83	...	2	4	6	Ok. b	Pk. b.	Ok. c.
4	9.1	7.85	8.51	8.33	81.0	83.0	80.0	80.2	83.0	72.0	16.0	13.5	4.0	3.0	4.0	SSW	NNE	NNW	115	76.0	75.0	75.5	76.8	8.31	8.57	8.9	84.278	6.0	8.0	74	...	2	6	6	Ok. b	Ok. c.	Pk. c.
5	8.6	7.39	8.31	8.09	82.0	87.0	81.0	83.7	90.0	73.0	17.0	11.0	5.0	3.0	4.0	NNE	ENE	SSW	125	78.0	79.0	75.5	77.5	9.06	8.84	8.38	87.68	6.0	8.0	77	0.7	2	6	6	Pk. b.	Pk. c.	Pk. c, d.
6	8.9	8.03	8.61	8.51	81.0	86.0	80.0	79.7	89.0	72.0	17.0	14.5	5.0	6.0	4.0	ENE	NNE	SSW	120	77.0	79.0	74.5	76.8	8.75	8.93	8.6	84.133	7.0	7.0	76	3.30	4	8	8	Ok. b.	Pk. o, r	Po. r.
7	9.0	7.4	8.43	8.13	82.0	86.0	79.0	82.0	90.0	73.0	17.0	13.0	4.0	6.0	4.0	NNE	ENE	SSW	115	78.0	79.0	75.5	77.5	9.06	8.93	8.16	87.83	7.0	7.0	79	0.93	4	8	10	Ok. b.	Pk. o, r	Po. r.
8	9.32	7.52	8.28	8.37	80.0	85.0	79.0	79.0	89.0	72.0	17.0	14.0	4.0	6.0	3.0	SSW	NNE	ENE	120	76.0	78.0	75.0	76.3	8.45	8.66	8.1	82.82	7.0	7.0	78	1.32	2	1	6	Ok. b.	Po. r.	Po. r.
9	9.0	7.81	8.73	8.51	82.0	84.0	78.0	79.0	90.0	72.0	18.0	13.5	4.0	6.0	3.0	ENE	NNW	ENE	120	78.0	79.0	74.5	77.1	9.06	9.25	7.94	87.53	7.0	7.0	79	...	2	4	6	Ok. b.	Po. r.	Po. c.
10	8.75	7.36	8.39	8.27	81.0	86.0	80.0	80.0	89.0	73.0	16.0	14.0	5.0	7.0	3.0	SSW	NNE	ENE	125	77.0	78.0	75.0	76.6	8.75	8.52	8.0	81.3	6.0	6.0	76	...	2	6	6	Ok. b.	Pk. b.	Pk. c.
11	8.81	7.91	8.48	8.41	80.5	87.0	80.0	79.8	89.0	72.0	17.0	14.0	5.0	6.0	3.0	NNE	ENE	NNE	115	78.5	76.0	75.0	76.5	9.35	7.5	8.02	82.891	5.0	6.0	75	...	4	6	6	Ok. c.	Pk. c.	Pk. c.
12	8.84	8.44	8.70	8.66	82.0	85.0	80.0	80.0	89.0	73.0	16.0	13.0	4.0	5.0	4.0	NNE	ENE	NNE	115	78.0	77.0	74.0	76.3	9.0	8.21	7.6	82.63	6.0	7.0	75	1.55	2	8	10	Ok. b.	Pk. o, r	Po. r.
13	8.9	7.18	8.17	8.1	83.0	85.0	78.0	79.8	89.0	72.0	17.0	13.0	4.0	7.0	2.0	SSW	NNE	ENE	120	78.0	76.0	74.0	76.0	8.93	7.77	7.87	81.09	6.0	6.0	75	0.3	6	6	8	Pk. c.	Ok. c.	Po. r.
14	8.3	7.21	8.01	7.83	83.0	83.0	78.0	80.2	89.0	72.0	17.0	12.5	3.0	6.0	3.0	NNE	ENE	SSW	110	79.0	78.0	75.0	77.3	9.35	8.25	8.29	7.61	7.3	6.0	77	0.41	8	6	6	Pk. o, r.	Pk. c.	Ok. c.
15	8.29	6.5	8.03	7.72	81.0	86.0	78.0	79.5	89.0	73.0	16.0	12.5	3.0	6.0	4.0	NNE	ENE	ENE	125	76.0	78.0	74.0	76.0	8.31	8.52	7.5	81.3	6.0	6.0	76	0.55	6	6	10	Ok. c.	Pk. c.	Po. r.
16	9.01	7.77	8.72	8.51	80.0	86.0	78.0	79.0	88.0	72.0	16.0	13.0	4.0	7.0	2.0	NNE	SSW	ENE	120	77.0	78.0	75.0	76.6	8.82	8.52	8.2	85.63	6.0	6.0	80	0.13	4	6	8	Ok. b.	Pk. c.	Pk. o, r.
17	9.32	7.99	9.13	8.47	80.5	86.0	78.0	79.1	89.0	72.0	17.0	13.2	4.0	6.0	3.0	NNE	ENE	SSW	115	77.0	78.0	75.0	76.6	8.82	8.52	8.2	85.45	6.0	6.0	79	...	4	6	6	Pk. b.	Ok. c.	Pk. c.
18	9.55	8.03	9.07	8.8	82.0	84.0	79.0	79.5	83.0	73.0	15.0	12.0	3.0	6.0	4.0	NNE	SSW	SSW	110	78.0	77.0	74.0	76.3	9.06	8.31	7.74	83.8	7.0	7.0	77	2.15	4	8	10	Ok. k. b	Pk. o, r	Po. r.
19	9.15	7.73	8.83	8.5	83.0	88.0	79.0	80.7	89.0	73.0	16.0	13.0	4.0	6.0	4.0	ENE	NNE	SSW	115	79.0	80.0	76.0	78.3	9.38	9.17	8.5	90.1	6.0	6.0	79	...	2	6	4	Ok. b.	Ok. c.	Pk. b.
20	8.84	7.95	8.59	8.46	82.0	85.0	79.0	79.5	89.0	72.0	17.0	13.5	4.0	6.0	3.0	SSW	NNE	ENE	120	78.0	77.0	75.0	76.6	9.06	8.21	8.16	84.7	6.0	6.0	77	0.23	2	6	8	Ok. b.	Pk. c.	Pk. o, r.
21	9.26	8.01	8.72	8.33	82.0	84.0	80.0	79.5	89.0	72.0	17.0	12.5	3.0	7.0	2.0	NNE	ENE	NNE	110	78.0	77.0	75.0	76.6	9.06	8.44	8.02	84.7	6.0	7.0	77	...	2	4	6	Ok. b.	Ok. b.	Pk. c.
22	8.43	7.78	8.27	8.29	83.0	85.0	78.0	79.5	88.0	72.0	16.0	13.0	4.0	7.0	2.0	SSW	NNE	ENE	110	78.0	77.0	74.0	76.3	8.9	8.21	7.87	83.3	6.0	6.0	76	2.00	4	6	10	Ok. b.	Pk. c.	Po. r.
23	9.0	7.72	8.62	8.47	83.0	86.0	79.0	80.5	89.0	73.0	16.0	13.0	4.0	6.0	4.0	NNE	SSW	ENE	120	78.0	79.0	74.0	77.0	8.93	7.61	7.74	84.0	7.0	6.0	72	...	2	4	4	Ok. b.	Pk. b	Pk. b.
24	8.74	7.78	8.66	8.39	82.0	86.0	79.0	79.7	83.0	72.0	16.0	13.0	4.0	6.0	3.0	ENE	NNE	SSW	115	78.0	79.0	75.0	77.3	9.06	8.9	8.16	83.83	7.0	7.0	79	...	2	4	6	Ok. b.	Pk. b.	Pk. c.
25	9.27	8.12	9.00	8.7	82.0	84.0	78.0	79.0	89.0	72.0	17.0	13.5	4.0	6.0	3.0	NNE	SSW	SSW	125	77.0	78.0	74.5	76.5	8.62	8.79	7.87	84.2	7.0	7.0	78	...	2	6	6	Ok. b.	Ok. c.	Pk. c.
26	9.05	8.01	8.97	8.6	82.0	86.0	80.0	80.2	89.0	73.0	16.0	14.0	5.0	7.0	3.0	NNE	ENE	SSW	120	78.0	79.0	74.0	77.0	9.06	8.9	7.6	85.133	7.0	7.0	76	...	2	4	4	Ok. b.	Pk. b.	Pk. b.
27	9.10	7.9	8.33	8.61	81.0	84.0	80.0	79.5	89.0	73.0	16.0	13.0	4.0	6.0	4.0	ENE	NNW	ENE	130	77.0	78.0	75.0	76.6	8.75	8.79	8.02	85.2	6.0	7.0	78	0.62	2	4	10	Ok. b.	Pk. b.	Po. r.
2	9.03	7.81	8.62	8.59	80.0	84.0	81.0	79.0	89.0	72.0	17.0	12.0	3.0	6.0	3.0	NNE	ENE	SSW	125	77.0	76.0	75.0	76.0	8.82	7.91	8.02	82.7	6.0	6.0	77	0.44	4	6	10	Ok. k. b	Pk. c.	Po. r.
29	9.01	8.01	8.97	8.6	82.0	85.0	79.0	79.7	89.0	73.0	16.0	14.5	5.0	6.0	4.0	NNE	ENE	NNE	120	76.0	78.0	74.0	76.0	8.1	8.56	7.74	81.5	7.0	7.0	75	0.42	4	8	10	Ok. k. b	Pk. o, r	Po. r.
30	9.0.																																				

Highest Atmospheric Pressure 29.997 Inches.  
 Lowest Atmospheric Pressure 29.685 "  
 In the shade, { Highest Temperature 90.0° Fah.  
 { Lowest Temperature 72.0° "  
 Greatest Fall of Rain in 24 hours 5.58 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY  
 Colonial Surveyor.



METEOROLOGICAL RESULTS OF THE BUKIT MERTAJAM HOSPITAL OBSERVATORY, FOR THE MONTH OF NOVEMBER, 1890.  
 5° 21' N. Lat., 100° 28' E. Long. Height of Bar Cistern above Sea Level, 65 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.						TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch. es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.				
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Velo- city.  Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	ENE.	SSE.	SSW.	125	77.5	76.0	74.0	75.8	.882	.764	.807	.817	85	61	88	78	.33	2	2	8	Cs, k, b.	Pk, b.	Pk, o, r.	
2	.899	.781	.848	.842	78.0	85.0	79.0	78.5	89.0	72.0	17.0	140.0	51.0	69.0	3.0	NNE.	ENE.	SSW.	130	74.5	78.0	76.0	76.1	.794	.366	.858	.839	84	72	87	81	.40	4	8	8	Cs, k, b.	Pk, o, r.	Po, r.	
3	.894	.727	.817	.812	80.5	99.0	76.5	80.0	92.0	73.0	19.0	139.0	33.0	63.0	5.0	NNE.	ENE.	SSW.	125	76.5	79.0	74.0	76.5	.845	.843	.807	.831	82	60	88	76	.42	4	8	6	Pk, b.	Pk, o, r.	Pk, c.	
4	.861	.790	.804	.818	78.0	85.0	79.0	78.7	89.0	73.0	16.0	140.0	51.0	70.0	3.0	Calm.	ENE.	SSW.	120	75.0	77.0	76.0	76.0	.829	.821	.858	.836	86	65	87	80	.40	2	6	10	Ck, b.	Pk, c.	Po, r.	
5	.868	.764	.824	.818	80.5	87.5	79.0	79.5	89.5	71.0	18.5	142.0	52.5	68.0	3.0	SSW.	NNW.	ENE.	125	76.5	77.0	75.5	76.3	.845	.787	.822	.818	82	60	84	75	...	0	4	6	b.	Ck, b.	Ck, c.	
6	.805	.720	.800	.775	78.0	87.5	78.5	78.5	90.0	70.0	20.0	145.0	55.0	67.0	3.0	Calm.	SSW.	ENE.	140	75.5	77.5	76.0	76.3	.839	.791	.865	.832	89	62	89	80	.30	4	6	8	Cs, k, b.	Pk, c.	Pk, o, r.	
7	.819	.763	.814	.798	84.5	89.0	80.0	81.0	92.0	70.5	21.5	148.0	56.0	67.0	2.5	NNW.	ENE.	SSW.	130	77.0	79.0	76.0	77.3	.828	.857	.845	.843	70	63	82	78	.20	2	6	8	Ck, b.	Ck, c.	Pk, o, r.	
8	.871	.771	.839	.827	82.5	89.0	80.0	80.8	91.0	72.0	19.0	150.0	59.0	69.0	3.0	NNW.	ENE.	SSW.	150	78.0	79.0	76.0	77.6	.899	.857	.845	.867	81	63	82	75	.25	2	4	8	Ck, b.	Pk, b.	Pk, o, r.	
9	.823	.710	.809	.780	81.5	86.5	80.0	80.2	89.0	73.0	16.0	145.0	56.0	69.0	4.0	SSW.	ENE.	NNW.	115	76.0	79.0	75.0	76.6	.825	.891	.802	.839	77	70	78	75	...	0	6	0	Ck, b.	Ck, c.	b.	
10	.907	.806	.854	.855	81.5	89.0	82.0	81.6	91.0	74.0	17.0	150.0	59.0	70.0	4.0	ENE.	SSW.	ENE.	135	77.0	79.0	76.5	77.5	.868	.857	.825	.850	81	63	77	73	...	0	2	6	b.	Ck, b.	Ck, c.	
11	.904	.803	.878	.861	80.0	87.5	80.0	80.1	90.0	73.0	17.0	140.0	50.0	69.0	4.0	Calm.	SSW.	ENE.	96	76.0	79.0	75.0	76.6	.845	.877	.802	.841	82	67	78	75	.63	2	8	6	Ck, b.	Po, l, t, r.	Pk, c.	
12	.937	.797	.866	.866	80.0	87.5	80.0	80.1	90.0	73.0	17.0	138.0	48.0	69.0	4.0	SSW.	NNE.	ENE.	140	76.0	79.0	75.0	76.6	.845	.877	.802	.841	82	67	78	75	...	0	4	6	b.	Ck, b.	Ck, c.	
13	.947	.820	.895	.887	81.5	87.0	78.0	79.6	90.0	72.0	18.0	140.0	50.0	69.0	3.0	ENE.	NNW.	ENE.	115	77.5	79.0	76.0	77.5	.875	.884	.872	.877	83	69	91	81	...	2	6	0	Cs, k, b.	Ck, c.	b.	
14	.921	.799	.907	.875	83.5	89.0	80.0	81.3	91.0	73.0	18.0	155.0	61.0	69.0	4.0	SSW.	NNW.	ENE.	135	78.0	79.0	76.0	77.6	.846	.857	.845	.862	77	63	82	74	...	0	6	0	b.	Ck, c.	b.	
15	.917	.748	.862	.842	79.5	86.0	79.5	78.5	90.0	73.0	17.0	148.0	53.0	69.0	4.0	NNE.	SSW.	NNE.	160	74.5	77.5	75.0	75.6	.774	.814	.809	.799	78	66	80	74	.16	4	4	8	Cs, k, b.	Pk, b.	Pk, o, r.	
16	.923	.835	.901	.886	79.5	84.0	79.0	78.8	90.0	73.0	17.0	146.0	56.0	69.0	4.0	NNE.	SSW.	ENE.	135	76.0	77.0	75.0	76.0	.852	.834	.816	.834	85	72	82	79	...	4	6	0	Cs, k, b.	Pk, c.	b.	
17	.905	.817	.857	.859	78.5	86.0	79.0	79.0	89.0	72.5	16.5	140.0	51.0	68.0	4.5	Calm.	SSW.	ENE.	100	75.5	77.0	75.0	75.8	.829	.897	.816	.817	84	65	82	77	.05	2	6	8	Ck, b.	Ck, c.	Pk, o, r.	
18	.899	.753	.854	.835	82.0	87.5	80.0	80.8	90.0	74.0	16.0	148.0	53.0	70.0	4.0	Calm.	NNE.	SSW.	145	77.0	79.0	76.0	77.3	.862	.877	.845	.861	79	67	82	76	...	0	4	6	b.	Ck, b.	Ck, c.	
19	.889	.745	.824	.819	81.0	87.0	79.0	80.0	91.0	73.0	18.0	145.0	51.0	70.0	3.0	Calm.	NNW.	NNE.	135	76.0	78.0	75.0	76.3	.831	.838	.816	.828	78	65	82	75	.10	0	6	0	L.	Pk, c, r.	b.	
20	.877	.796	.804	.825	82.0	85.0	78.0	79.2	90.0	72.0	18.0	148.0	53.0	69.0	3.0	Calm.	NNW.	ENE.	140	76.0	77.0	75.0	76.0	.818	.821	.829	.822	75	68	86	76	.15	4	10	6	Pk, b.	Pk, o, l, t, r.	Pk, c.	
21	.829	.676	.814	.773	82.0	86.5	79.0	79.8	90.0	72.0	18.0	144.0	54.0	69.0	3.0	SSW.	ENE.	Calm.	110	76.0	78.5	75.5	76.6	.818	.852	.822	.830	75	68	84	75	...	4	6	4	Cs, k, b.	Ck, c.	Ck, b.	
22	.877	.732	.801	.800	81.5	87.5	80.0	80.2	90.0	71.0	19.0	140.0	50.0	68.0	3.0	Calm.	NNE.	ENE.	120	76.0	79.0	75.5	76.8	.825	.877	.809	.837	77	67	80	74	...	2	4	4	Ck, b.	Ck, b.	Pk, b.	
23	.884	.745	.820	.816	79.5	85.0	78.0	78.6	90.0	72.0	18.0	140.0	50.0	69.0	3.0	NNW.	SSE.	NNW.	145	75.0	77.0	74.5	75.5	.809	.821	.794	.808	80	68	84	77	...	0	4	4	b.	Ck, b.	Ck, b.	
24	.881	.794	.864	.846	79.0	87.5	80.0	79.8	91.0	73.0	18.0	145.0	54.0	69.0	5.0	NNE.	SSW.	ENE.	135	75.0	79.0	76.0	76.6	.816	.877	.845	.846	82	67	82	77	...	2	6	0	Ck, b.	Ck, c.	b.	
25	.883	.727	.831	.813	83.0	83.0	80.0	81.0	90.0	73.0	17.0	146.0	56.0	68.0	5.0	NNE.	ENE.	SSW.	130	77.0	79.0	76.0	77.3	.848	.871	.845	.854	75	66	82	74	...	4	6	4	Ck, b.	Ck, c.	Ck, b.	
26	.862	.762	.809	.811	81.0	87.5	80.0	80.3	90.0	73.0	17.0	155.0	65.0	68.0	5.0	NNE.	SSW.	ENE.	136	75.5	79.0	76.0	76.8	.795	.877	.845	.839	76	67	82	75	...	0	2	6	b.	Ck, b.	Ck, c.	
27	.879	.771	.824	.824	84.0	88.5	80.5	81.3	90.0	72.5	17.5	153.0	63.0	68.0	4.5	NNE.	SSW.	ENE.	160	76.0	79.5	76.5	77.3	.791	.871	.845	.835	68	66	82	72	.25	4	6	8	Cs, k, b.	Pk, c.	Pk, o, r.	
28	.870	.789	.811	.823	80.5	89.5	81.0	81.0	91.0	73.0	18.0	156.0	65.0	70.0	3.0	SSW.	NNE.	ENE.	155	76.0	79.5	76.5	77.3	.838	.857	.838	.844	80	63	80	74	.40	2	6	10	Ck, b.	Pk, c.	Po, r.	
29	.885	.793	.805	.827	80.5	87.5	81.0	80.5	91.0	73.0	18.0	155.0	64.0	70.0	3.0	NNW.	SSW.	ENE.	150	76.0	79.0	76.5	77.1	.838	.877	.838	.851	80	67	80	75	.80	4	8	10	Cs, k, b.	Pk, o, l, t, r.	Po, r.	
30	.899	.784	.807	.830	83.0	87.5	80.0	80.8	91.0	73.0	18.0	148.0	57.0	69.0	4.0	SSW.	NNE.	ENE.	135	77.0	79.0	76.0	77.3	.848	.877	.845	.856	75	67	82	74	...	0	4	4	b.	Ck, b.	Pk, b.	
Mean.	29.883	29.771	29.838	29.830	80.9	87.2	79.4	79.9	90.3	72.5																													

Highest Atmospheric Pressure 29.947 Inches  
 Lowest Atmospheric Pressure 29.676 "  
 In the Shade { Highest Temperature 92.0° Fah.  
 Lowest Temperature 70.0° "  
 Greatest Fall of Rain in 24 hours .80 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
 Colonial Surgeon.



**METEOROLOGICAL RESULTS OF THE BUKIT MERTAJAM HOSPITAL OBSERVATORY, FOR THE MONTH OF DECEMBER, 1890.**  
*5° 21' N. Lat., 100° 28' 38" E. Long.*  
*Height of Bar Cistern above Sea Level, 43 ft.*

DATE	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.	COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.						
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			Total Miles.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	29.864	29.802	29.854	29.840	83.5	89.0	77.5	83.3	90.5	75.0	15.5	140.0	50.0	73.5	1.5	SW.	SW.	SW.	6	79.0	80.0	77.0	78.5	.932	.903	.922	.919	81	66.98	81	.25	3	8	8	C, c.	Pk, c.	Pc, c.		
2	.873	.755	.865	.831	83.0	86.0	77.5	82.1	89.0	73.5	16.5	132.0	43.0	72.5	1.0	NW.	SSE.	NW.	6	78.0	80.0	78.0	78.0	.893	.944	.879	.905	79	79.93	82	.40	8	4	4	Ck, b.	Pc, c.	Ck, c.		
3	.861	.742	.850	.817	83.0	85.0	78.0	82.0	89.5	73.0	16.5	138.0	48.5	72.0	1.0	Calm.	SW.	Calm.	3	80.0	80.5	77.0	79.1	.985	.981	.916	.960	87	81.95	89	...	2	3	0	Cs, b.	Ck, c.	b.		
4	.879	.750	.871	.833	83.0	87.0	77.0	82.0	91.0	73.5	17.5	137.0	46.0	73.0	0.5	SW.	SW.	Calm.	12	78.0	80.0	76.0	78.0	.893	.931	.886	.903	79	72.95	82	...	2	4	4	C, b.	C, b.	Cs, b.		
5	.842	.735	.793	.790	80.0	85.0	77.0	80.5	89.0	73.5	15.5	135.0	46.0	73.0	0.5	SW.	Calm.	SW.	8	79.0	81.0	76.0	78.6	.979	1.005	.884	.890	6	83.95	91	.55	2	2	10	Cs, b.	Ck, c.	Cs, b.		
6	.922	.778	.796	.832	80.0	85.0	75.0	80.0	90.0	72.5	17.5	130.0	40.0	71.5	1.0	Calm.	SW.	Calm.	7.4	79.0	80.0	74.5	77.5	.979	.958	.848	.928	96	79.98	91	...	0	4	6	Cs, b.	Ck, c.	Cs, b.		
7	.871	.737	.857	.821	83.5	84.0	79.0	82.0	88.5	74.5	14.0	133.0	49.5	74.0	0.5	Calm.	Calm.	Calm.	...	78.5	80.0	78.0	78.8	.909	.971	.947	.942	79	83.95	85	...	2	4	8	Ck, c.	Cs, b.	Pk, c.		
8	.922	.778	.796	.832	80.0	85.0	75.0	80.0	90.0	72.5	17.5	130.0	40.0	71.5	1.0	Calm.	SW.	Calm.	7.4	79.0	80.0	74.5	77.5	.979	.958	.848	.928	96	79.98	91	...	6	7	8	Ck, c.	Cs, b.	Cs, c.		
9	.899	.742	.865	.835	83.0	85.0	79.0	82.0	89.0	73.0	16.0	145.0	56.0	72.5	0.5	Calm.	SW.	Calm.	5	78.0	80.0	78.0	78.5	.893	.958	.947	.932	79	79.95	84	...	2	2	4	C, b.	C, b.	Cs, b.		
10	.881	.732	.853	.822	80.0	80.0	76.0	78.5	85.5	74.0	11.5	124.0	38.5	72.5	1.5	Calm.	SW.	Calm.	6	76.5	78.0	75.5	76.6	.867	.933	.878	.892	85	91.98	91	...	4	4	9	C, c.	Pc, c.	Pk, o.		
11	.917	.782	.869	.856	81.0	80.5	78.0	79.5	87.0	74.0	13.0	123.0	36.0	73.0	1.0	Calm.	Calm.	Calm.	...	78.0	79.0	77.0	78.0	.920	.972	.916	.936	87	93.95	91	...	2	6	8	Cs, b.	Ck, c.	Pc, c.		
12	.899	.785	.867	.850	84.0	90.0	78.0	84.0	91.0	74.5	16.5	138.0	47.0	73.0	1.5	Calm.	WSW.	Calm.	4.4	78.0	80.0	77.0	78.3	.879	.890	.916	.895	75	63.95	77	...	4	5	6	Ck, c.	Pk, c.	Cs, b.		
13	.917	.787	.867	.857	82.0	84.0	77.5	81.0	90.0	73.0	17.0	130.0	40.0	72.0	1.0	Calm.	SW.	SW.	14	78.0	79.0	76.0	77.5	.906	.925	.879	.903	83	79.93	85	...	4	2	6	Cs, b.	Ck, c.	Cs, b.		
14	.906	.787	.860	.849	84.0	87.5	78.0	83.1	91.0	74.5	16.5	139.0	48.0	74.0	0.5	Calm.	N.	Calm.	7	78.5	80.0	76.5	78.3	.902	.924	.894	.906	77	71.93	80	...	2	2	8	Cs, b.	Ck, c.	Cs, b.		
15	.902	.754	.812	.832	84.0	87.5	79.0	83.5	91.0	73.5	17.5	137.0	46.0	72.5	1.0	Calm.	NNW.	Calm.	4.4	78.5	84.0	77.0	78.8	.902	.971	.902	.925	77	74.91	80	...	3	8	8	Cs, b.	Ck, c.	Cs, b.		
16	.895	.769	.860	.841	83.0	89.0	78.0	83.3	91.0	74.0	17.0	141.0	50.0	73.5	0.5	Calm.	W.	NW.	9.4	79.0	80.5	76.5	78.6	.938	.927	.894	.919	83	68.93	81	...	4	4	6	Ck, c.	Pc, c.	Pk, c.		
17	.856	.770	.851	.825	84.5	81.5	77.0	81.0	85.5	73.5	15.0	132.0	44.0	73.0	0.5	SW.	Calm.	NNE.	11.5	78.0	79.5	76.0	77.8	.872	1.015	.886	.924	74	95.95	86	...	5	6	7	Cs, c.	Ck, c.	Cs, b.		
18	.851	.761	.841	.817	75.5	81.0	77.0	77.8	81.5	72.5	9.0	96.0	14.5	71.5	1.0	NNW.	Calm.	Calm.	15	74.5	77.5	74.0	75.3	.842	.911	.801	.851	95	89.86	90	.45	7	10	10	Pc, o.	Pc, o.	Pk, o.		
19	.835	.755	.853	.815	86.0	85.5	78.0	83.1	90.5	73.5	17.0	112.0	21.5	72.0	1.5	Calm.	SWW.	Calm.	10.6	79.5	79.0	77.0	78.5	.920	.904	.916	.913	74	74.95	84	...	8	5	6	Cs, b.	Ck, c.	Cs, b.		
20	.870	.788	.840	.832	83.0	86.5	79.5	83.0	91.5	72.0	19.5	146.5	55.0	71.0	1.0	SWS.	Calm.	Calm.	8.2	78.0	78.5	76.0	77.5	.886	.868	.852	.868	79	68.85	77	...	5	6	8	Cs, b.	Ck, c.	Ck, c.		
21	.879	.781	.850	.836	84.0	84.5	77.5	82.0	89.0	73.0	15.5	146.0	57.0	73.5	0.0	SSE.	Calm.	Calm.	9	78.5	79.0	76.5	78.0	.902	.918	.901	.907	77	77.95	80	...	7	6	4	Cs, b.	Ck, c.	Ck, c.		
22	.799	.723	.800	.774	83.0	82.0	78.5	81.1	89.0	72.5	16.5	140.0	51.0	72.0	0.5	Calm.	SWW.	Calm.	13.7	77.0	76.5	76.5	76.6	.848	.840	.887	.858	75	77.91	81	...	4	3	2	Ck, c.	Cs, b.	Ck, c.		
23	.801	.710	.794	.768	84.5	87.5	76.0	82.6	90.0	72.5	17.5	143.0	53.0	71.5	1.0	NNW.	NW.	Calm.	11.1	76.0	77.0	71.0	75.5	.784	.787	.814	.795	66	80.91	72	...	5	3	7	Ck, c.	Cs, b.	Ck, c.		
24	.809	.743	.823	.791	86.0	85.0	75.5	82.0	90.5	74.0	16.5	140.0	49.5	73.0	1.0	Calm.	NW.	Calm.	2	79.0	79.0	74.5	77.5	.898	.911	.842	.883	72	76.95	81	...	8	8	7	Cs, b.	Ck, c.	Ck, c.		
25	.818	.755	.850	.807	86.0	87.0	79.0	84.0	89.0	74.5	14.5	143.0	54.0	74.0	0.5	Calm.	NNW.	Calm.	16.5	78.5	79.0	77.5	78.3	.875	.834	.914	.891	70	69.93	77	...	3	3	5	Cs, b.	Ck, c.	Ck, c.		
26	.791	.722	.798	.770	82.5	88.5	76.0	82.3	91.0	70.0	21.0	143.0	52.0	69.0	1.0	NEN.	SWW.	Calm.	12.5	75.5	80.5	74.5	76.8	.789	.934	.835	.852	71	69.93	77	...	5	7	8	Ck, c.	Cs, b.	Ck, c.		
27	.882	.774	.856	.837	83.5	83.5	78.5	81.5	90.0	73.5	16.5	142.5	52.5	72.5	1.0	Calm.	Calm.	SWW.	6	78.0	79.0	77.5	78.1	.886	.932	.931	.916	77	81.95	84	...	4	6	8	Cs, b.	Ck, c.	Ck, c.		
28	.828	.749	.826	.801	86.0	82.0	77.0	81.6	90.5	75.0	15.5	142.5	52.0	73.5	1.5	Calm.	SW.	Calm.	4.5	79.5	79.0	76.0	78.0	.920	.952	.886	.919	74	87.95	85	...	5	6	8	Cs, b.	Ck, c.	Cs, b.		
29	.839	.761	.854	.818	85.0	85.5	76.0	82.1	88.5	72.5	16.0	140.5	52.0	71.5	1.0	SSW.	SSW.	Calm.	4	79.0	79.0	75.0	77.5	.911	.964	.856	.890	76	74.95	81	...	5	4	6	Cs, b.	Ck, c.	Ck, c.		
30	.927	.787	.879	.804	83.5	90.0	76.5	80.3	89.5	71.5	18.0	140.0	50.5	68.0	3.5	SSE.	SSW.	Calm.	55	76.5	77.5	74.5	76.0	.804	.774	.814	.797	71	57.91	73	...	2	4	6	Cs, b.	Ck, c.	Pc, c.		
31	.918	.703	.896	.835																																			

Highest Atmospheric Pressure 29.927 Inches.  
 Lowest Atmospheric Pressure 29.703 "  
 In the shade, Highest Temperature 92.5° Fah.  
 Lowest Temperature 70.0° "  
 Greatest Fall of Rain in 24 hours 1.45 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

J. H. McCLOSKEY,  
*Colonial Surgeon.*



METEOROLOGICAL RESULTS OF THE MALACCA HOSPITAL OBSERVATORY, FOR THE MONTH OF JANUARY, 1890.  
 12°14' N. Lat., 102°-14 E. Long. Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch. es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																				
1	29.789	29.797	29.804	29.796	82.0	83.0	82.0	80.7	89.0	76.0	13.0	150.0	61.0	73.0	3.0	NE.	W.	E.	166	80.0	80.0	81.0	80.3	.998	.985	1.046	.975	91	87	96	91	...	8	4	8	P, c.	Cs, b.	P, c.
2	.797	.801	.824	.807	80.0	86.0	82.0	80.5	89.0	74.0	15.0	165.0	76.0	72.0	2.0	NE.	W.	E.	166	79.0	82.0	79.0	80.0	.979	1.040	.952	.990	96	84	87	89	...	0	4	8	b.	Cs, b.	P, c.
3	.812	.792	.794	.799	82.0	81.0	82.0	80.5	89.0	77.0	12.0	150.0	61.0	72.0	5.0	NE.	W.	E.	174	81.0	80.0	81.0	80.7	1.046	1.012	1.046	1.034	96	96	96	96	.22	0	4	8	b.	Cs, b.	P, c.
4	.802	.802	.809	.804	80.0	81.0	81.0	79.5	88.0	76.0	12.0	151.0	63.0	73.0	3.0	NE.	N.	W.	159	80.0	81.0	80.0	80.3	1.026	1.060	1.012	1.032	100	100	96	98	.13	0	4	8	b.	Cs, b.	P, c.
5	.923	.812	.824	.856	77.0	83.0	81.0	79.2	88.0	76.0	12.0	147.0	59.0	73.0	3.0	NE.	N.	N.	233	75.0	79.0	79.0	77.3	.843	.938	.966	.915	91	83	91	88	...	0	4	8	b.	Cs, b.	P, c.
6	.807	.804	.827	.812	82.0	80.0	80.0	78.7	84.0	73.0	11.0	159.0	66.0	72.0	1.0	NE.	N.	N.	369	80.0	79.0	75.0	78.0	.998	.979	.802	.926	91	96	78	88	...	4	4	8	Cs, b.	Cs, b.	P, c.
7	.807	.799	.829	.811	80.0	84.0	80.0	80.0	88.0	76.0	12.0	156.0	68.0	72.0	4.0	NE.	N.	N.	216	79.0	80.0	79.0	79.3	.979	.971	.979	.976	96	83	96	91	...	4	0	8	Cs, b.	b.	P, c.
8	.799	.791	.817	.802	82.0	86.0	80.0	80.7	89.0	75.0	14.0	160.0	71.0	73.0	2.0	NE.	N.	N.	207	79.0	80.0	75.0	78.0	.952	.944	.802	.899	87	76	78	80	...	0	6	0	b.	P, c.	b.
9	.802	.804	.807	.801	81.0	82.0	80.0	79.7	89.0	76.0	13.0	150.0	61.0	72.0	4.0	NE.	N.	N.	190	78.0	79.0	76.0	77.7	.920	.952	.845	.905	87	87	82	85	...	0	4	8	b.	Cs, b.	P, c.
10	.797	.799	.809	.801	78.0	80.0	82.0	78.7	89.0	75.0	14.0	151.0	62.0	73.0	2.0	NE.	N.	E.	184	76.0	77.0	79.0	77.3	.872	.889	.952	.904	91	87	87	88	...	8	4	8	b.	Cs, b.	P, c.
11	.784	.792	.799	.791	78.0	81.0	86.0	80.2	88.0	76.0	12.0	153.0	65.0	72.0	4.0	NE.	N.	E.	190	75.0	80.0	80.0	78.3	.829	1.012	.944	.928	86	96	76	86	...	0	4	8	b.	Cs, b.	P, c.
12	.807	.807	.794	.797	80.0	79.0	81.0	79.7	88.0	76.0	12.0	152.0	64.0	73.0	3.0	NE.	N.	E.	172	80.0	77.0	80.0	79.0	1.026	.902	.971	.966	100	91	133	91	.38	4	8	8	Cs, b.	P, c.	P, c.
13	.794	.796	.812	.804	80.0	80.0	82.0	79.7	86.0	77.0	9.0	144.0	58.0	73.0	4.0	NNE.	N.	N.	179	78.0	79.0	82.0	79.3	.933	.979	1.095	1.002	91	96	00	95	...	0	4	8	b.	Cs, b.	P, c.
14	.802	.804	.824	.807	78.0	85.0	77.0	79.0	90.0	76.0	1.40	160.0	70.0	72.0	4.0	NNE.	N.	N.	179	77.0	82.0	76.0	78.3	.916	1.054	.886	.952	95	87	95	92	...	0	4	8	b.	Cs, b.	P, c.
15	.812	.804	.799	.805	77.0	83.0	80.0	78.5	86.0	74.0	12.0	151.0	65.0	72.0	2.0	NNE.	N.	N.	191	75.0	80.0	73.0	77.3	.843	.985	.933	.920	91	87	91	89	...	6	4	8	P, c.	Cs, b.	P, c.
16	.787	.791	.794	.795	83.0	82.0	81.0	80.2	87.0	75.0	12.0	150.0	63.0	74.0	1.0	NNE.	W.	E.	181	77.0	78.0	79.0	78.0	.848	.906	.966	.906	75	83	91	83	...	10	4	8	P, c.	Cs, b.	P, c.
17	.784	.796	.807	.794	80.0	85.0	81.0	80.0	86.0	74.0	12.0	140.0	54.0	72.0	2.0	NNE.	SSW.	E.	178	79.0	80.0	79.0	79.3	.979	.958	.966	.976	96	79	91	88	...	0	4	8	b.	Cs, b.	P, c.
18	.797	.796	.807	.800	80.0	85.0	83.0	81.0	87.0	76.0	11.0	144.0	57.0	72.0	4.0	NNE.	SSW.	E.	168	78.0	79.0	78.0	78.3	.933	.911	.893	.915	91	76	79	82	.15	0	4	8	b.	Cs, b.	P, c.
19	.817	.789	.797	.803	77.0	85.0	83.0	80.0	88.0	75.0	13.0	150.0	62.0	73.0	2.0	NNE.	NE.	N.	193	76.0	80.0	79.0	78.3	.886	.958	.938	.924	95	79	83	85	.80	0	4	10	b.	Cs, b.	P, c.
20	.794	.804	.807	.796	82.0	86.0	80.0	81.0	89.0	76.0	13.0	151.0	62.0	73.0	3.0	E.	SE.	N.	184	79.0	80.0	79.0	79.3	.952	.944	.979	.958	87	76	96	86	...	0	0	8	b.	Cs, b.	P, c.
21	.799	.786	.792	.798	83.0	83.0	81.0	80.5	87.0	75.0	12.0	150.0	63.0	73.0	2.0	N.	SE.	NE.	187	79.0	80.0	79.0	79.3	.938	.985	.966	.963	83	87	91	87	...	0	4	8	b.	Cs, b.	P, c.
22	.809	.796	.801	.798	82.0	86.0	85.0	81.7	89.0	74.0	15.0	165.0	76.0	73.0	1.0	NE.	S.	NE.	201	80.0	82.0	81.0	81.0	.998	1.040	1.005	1.014	91	84	83	86	1.15	0	0	10	b.	Cs, b.	P, c.
23	.797	.801	.817	.803	81.0	87.0	81.0	81.2	89.0	76.0	13.0	165.0	76.0	73.0	3.0	N.	NE.	NE.	204	81.0	81.0	79.0	80.3	.060	.978	.966	1.001	100	76	91	89	.74	0	4	8	b.	Cs, b.	P, c.
24	.802	.784	.807	.803	80.0	85.0	80.0	80.0	89.0	75.0	14.0	150.0	61.0	73.0	2.0	N.	N.	NE.	192	78.0	80.0	79.0	79.0	1.933	.958	.979	.956	91	79	96	88	...	0	0	8	P, c.	Cs, b.	P, c.
25	.801	.794	.807	.798	82.0	86.0	84.0	81.5	85.0	74.0	11.0	150.0	65.0	72.0	2.0	N.	SE.	NE.	213	80.0	83.0	81.0	81.3	.998	1.090	1.019	1.035	91	88	87	88	...	10	4	6	b.	Cs, b.	P, c.
26	.784	.789	.812	.796	81.0	86.0	81.0	81.7	88.0	76.0	12.0	160.0	72.0	72.0	4.0	N.	W.	NE.	171	80.0	82.0	79.0	80.3	.971	1.040	.966	.992	83	84	91	86	...	0	4	6	b.	Cs, b.	P, c.
27	.789	.781	.802	.793	84.0	86.0	83.0	82.0	87.0	75.0	12.0	152.0	65.0	72.0	3.0	N.	W.	NE.	188	82.0	81.0	80.0	81.0	.067	.992	.985	1.015	91	80	87	86	...	0	0	4	b.	Cs, b.	Cs, b.
28	.809	.791	.796	.795	83.0	87.0	85.0	82.2	89.0	74.0	15.0	160.0	71.0	73.0	1.0	N.	WSW.	NE.	167	79.0	81.0	81.0	80.3	1.938	.978	1.005	.973	83	76	83	80	...	0	4	8	b.	Cs, b.	P, c.
29	.879	.792	.812	.827	82.0	86.0	81.0	80.7	88.0	74.0	14.0	161.0	76.0	72.0	2.0	N.	N.	NE.	214	80.0	82.0	79.0	80.3	.998	1.040	.966	1.001	91	84	91	88	...	0	0	4	b.	Cs, b.	P, c.
30	.802	.864	.801	.825	84.0	86.0	85.0	82.5	86.0	75.0	11.0	165.0	79.0	72.0	3.0	N.	N.	NE.	218	79.0	82.0	80.0	80.3	.925	1.040													

Highest Atmospheric Pressure 29.923 Inches  
 Lowest Atmospheric Pressure 29.784 "  
 In the Shade, { Highest Temperature 90°0 Fah.  
 { Lowest Temperature 73°0 "  
 Greatest Fall of Rain in 24 hours 1.15 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H 21, H, and Minimum Temperature.

T. H. COLSTON,  
 Acting Colonial Surgeon.



METEOROLOGICAL RESULTS OF THE MALACCA, OBSERVATORY, FOR THE MONTH OF FEBRUARY, 1890.  
 °12'14, N. Lat., 102°-14 E. Long. Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.					
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Velo- city.  Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.		21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	29.874	29.863	29.907	29.881	84.0	88.0	81.0	81.7	86.0	74.0	12.0	160.0	74.0	72.0	2.0	NE.	ENE.	E.	234	80.0	81.0	79.0	80.0	.971	.965	.966	.967	83	73	91	82	...	4	0	0	Cs, b.	b.	b.	
2	.799	.801	.794	.798	84.0	85.0	86.0	82.2	89.0	74.0	15.0	160.0	71.0	72.0	2.0	NE.	WSW.	E.	216	79.0	80.0	81.0	80.0	.925	.958	.992	.958	79	79	80	79	...	0	4	4	b.	Cs, b.	Cs, b.	
3	.887	.799	.787	.824	84.0	85.0	85.0	82.0	88.0	74.0	14.0	161.0	73.0	73.0	1.0	NE.	WSW.	E.	194	79.0	80.0	79.0	79.3	.925	.958	.911	.931	79	79	76	78	...	0	0	4	b.	b.	Cs, b.	
4	.887	.804	.817	.830	82.0	82.0	81.0	80.2	88.0	76.0	12.0	160.0	72.0	73.0	3.0	NE.	WSW.	E.	197	79.0	80.0	79.0	79.3	.952	.998	.966	.972	87	91	91	89	.30	0	4	6	b.	Cs, b.	Pc.	
5	.812	.867	.812	.830	81.0	83.0	81.0	80.5	86.0	77.0	9.0	161.0	75.0	72.0	5.0	NE.	N.	SE.	180	79.0	80.0	79.0	79.3	.966	.985	.966	.972	91	87	91	89	...	4	0	10	Cs, b.	b.	Pc, o, r.	
6	.877	.804	.794	.825	82.0	88.0	85.0	82.5	88.0	75.0	13.0	150.0	62.0	71.0	4.0	N.	NNE.	SW.	211	79.0	85.0	80.0	81.3	.952	1.165	.958	1.025	87	88	79	84	...	0	4	6	b.	Cs, b.	Pc.	
7	.789	.791	.792	.790	82.0	87.0	85.0	82.2	88.0	75.0	13.0	158.0	70.0	73.0	2.0	NNE.	WSW.	SE.	198	79.0	80.0	80.0	79.7	.952	.931	.958	.947	87	72	79	77	...	0	0	6	b.	b.	Pc.	
8	.787	.796	.787	.790	82.0	86.0	84.0	81.7	89.0	75.0	14.0	152.0	63.0	72.0	3.0	NNE.	WSW.	E.	172	79.0	81.0	80.0	80.0	.952	.992	.971	.971	87	80	83	83	...	4	4	6	Cs, b.	Cs, b.	Pc.	
9	.794	.804	.787	.795	83.0	85.0	83.0	81.7	87.0	76.0	11.0	160.0	73.0	73.0	3.0	NNE.	WSW.	E.	194	78.0	80.0	75.0	77.7	.893	.958	.938	.929	79	79	83	80	...	0	6	6	b.	Pc.	Pc.	
10	.792	.789	.819	.800	80.0	88.0	81.0	81.2	88.0	76.0	12.0	160.0	72.0	72.0	4.0	NNE.	NNW.	E.	182	79.0	81.0	79.0	79.7	.979	.965	.966	.970	96	73	91	86	...	0	4	10	b.	Cs, b.	Pc, o, r.	
11	.829	.824	.799	.817	80.0	84.0	82.0	80.2	88.0	75.0	13.0	153.0	65.0	72.0	3.0	NNE.	NNW.	ESE.	170	79.0	80.0	79.0	79.3	.979	.971	.952	.967	96	83	87	88	.55	0	4	6	b.	Cs, b.	Pc.	
12	.892	.814	.794	.835	79.0	81.0	80.0	79.0	86.0	76.0	10.0	141.0	55.0	73.0	3.0	NNE.	NNW.	ESE.	214	76.0	78.0	79.0	77.7	.858	.920	.979	.919	87	87	96	90	2.15	6	10	10	Pc.	Pc, or.	Pc, o, r.	
13	.900	.802	.817	.839	80.0	82.0	81.0	79.5	88.0	75.0	13.0	155.0	67.0	72.0	3.0	NE.	W.	ESE.	156	79.0	80.0	79.0	79.3	.979	.989	.966	.978	96	91	91	92	...	6	4	6	Pc.	Cs, b.	Pc.	
14	.806	.789	.779	.791	81.0	85.0	80.0	80.2	88.0	75.0	13.0	160.0	72.0	70.0	5.0	NE.	W.	ESE.	182	79.0	81.0	79.0	79.7	.966	1.005	.979	.983	91	83	96	90	.60	4	4	6	Cs, b.	Cs, b.	Pc.	
15	.822	.787	.799	.802	77.0	80.0	81.0	78.5	87.0	76.0	11.0	149.0	62.0	70.0	6.0	ENE.	SW.	ESE.	172	75.0	79.0	79.0	77.7	.843	.979	.966	.929	91	96	91	92	...	10	4	6	Pc, or.	Cs, b.	Pc.	
16	.797	.802	.819	.806	81.0	83.0	82.0	80.2	86.0	75.0	11.0	140.0	54.0	72.0	3.0	E.	SW.	E.	179	78.0	79.0	80.0	79.0	.920	.938	.998	.952	87	83	91	87	...	0	0	4	b.	b.	Cs, b.	
17	.870	.796	.789	.818	82.0	85.0	82.0	80.5	85.0	73.0	12.0	150.0	65.0	70.0	3.0	E.	WSW.	E.	189	80.0	80.0	75.0	78.3	.998	.958	.952	.969	91	79	87	85	...	4	0	6	Cs, b.	Cs, b.	Pc.	
18	.792	.796	.789	.792	83.0	86.0	81.0	81.5	88.0	76.0	12.0	159.0	71.0	73.0	3.0	E.	W.	SW.	188	79.0	83.0	79.0	80.3	.938	1.090	.966	.998	83	88	91	87	.31	4	6	8	Cs, b.	Pc.	Pc, o, r.	
19	.797	.799	.812	.802	81.0	84.0	83.0	80.7	89.0	75.0	14.0	156.0	67.0	73.0	2.0	N.	W.	SSW.	182	79.0	80.0	81.0	80.0	.966	.971	1.032	.993	91	83	91	88	...	0	4	6	b.	Cs, b.	Pc.	
20	.827	.786	.819	.810	82.0	86.0	81.0	81.0	85.0	75.0	10.0	150.0	65.0	70.0	5.0	N.	W.	SE.	161	79.0	80.0	79.0	79.3	.952	.944	.966	.950	87	76	91	84	.60	0	4	6	b.	Cs, b.	Pc.	
21	.809	.791	.872	.824	83.0	86.0	83.0	82.2	86.0	77.0	9.0	160.0	74.0	73.0	4.0	NE.	WSW.	E.	163	79.0	81.0	81.0	80.3	.938	.992	1.032	.987	83	80	91	84	...	4	0	10	Cs, b.	b.	Pc, o, r.	
22	.807	.809	.817	.811	81.0	84.0	83.0	81.7	88.0	79.0	9.0	165.0	67.0	72.0	7.0	NE.	WSW.	E.	157	79.0	80.0	81.0	80.0	.966	.971	1.032	.989	91	83	91	88	...	0	0	6	b.	b.	Pc, o, r.	
23	.794	.796	.861	.817	80.0	85.0	86.0	81.2	86.0	74.0	12.0	151.0	65.0	71.0	3.0	NE.	WSW.	E.	153	80.0	79.0	83.0	80.7	1.026	.911	1.245	1.060	100	76	100	92	...	0	4	6	b.	b.	Pc, o, r.	
24	.789	.804	.797	.790	83.0	85.0	81.0	82.0	88.0	79.0	9.0	160.0	72.0	72.0	7.0	NE.	WSW.	E.	160	81.0	82.0	79.0	80.7	1.032	1.054	.966	1.017	91	87	91	89	.25	0	0	6	b.	Cs, b.	Pc, c.	
25	.794	.794	.806	.798	80.0	87.0	85.0	82.0	88.0	76.0	12.0	162.0	74.0	73.0	3.0	NE.	NW.	SW.	175	78.0	84.0	80.0	80.7	.933	1.127	.958	1.006	91	88	79	86	...	4	0	6	Cs, b.	b.	Pc, c.	
26	.801	.804	.806	.803	85.0	88.0	85.0	83.5	88.0	76.0	12.0	160.0	72.0	70.0	6.0	N.	WSW.	SW.	173	82.0	80.0	80.0	80.7	1.054	.917	.958	1.009	87	69	79	78	...	0	4	6	b.	Cs, b.	Pc, c.	
27	.799	.806	.872	.825	85.0	86.0	83.0	82.0	86.0	74.0	12.0	159.0	63.0	72.0	2.0	N.	SW.	SW.	180	80.0	82.0	79.0	80.3	.938	1.040	.938	.978	79	84	83	82	...	0	0	4	b.	b.	Pc, b.	
28	.792	.789	.814	.798	83.0	88.0	86.0	82.7	88.0	74.0	14.0	160.0	72.0	70.0	4.0	N.	SW.	SW.	165	80.0	82.0	82.0	81.3	.985	1.015	1.040	1.012	87	76	84	82	.75	4	0	4	Cs, b.	b.	Pc, b.	
Mean.	29.821	29.803	29.812	29.812	81.7	85.0	82.7	81.2	87.3	75.4	11.9	156.1	68.8	71.8	3.6				182	78.9	80.6	79.5	79.7	.955	.988	.981	.975	88	81	87	85	Total 5.51	2	2	6				

Highest Atmospheric Pressure 29.907 Inches  
 Lowest Atmospheric Pressure 29.779 "  
 In the Shade, { Highest Temperature 89°0 Fah.  
                     { Lowest Temperature 73°0 "  
 Greatest Fall of Rain in 24 hours 2.15 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H 21 H, and Minimum Temperature.

WM. HOAD,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE MALACCA HOSPITAL OBSERVATORY, FOR THE MONTH OF MARCH, 1890.

12°14' N. Lat., 102°14' E. Long.

Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER — REDUCED TO 32°				TEMPERATURE OF AIR.						TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10.			CLOUD & WEATHER INITIALS.				
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	29.867	29.824	29.809	29.833	80.0	84.0	82.0	80.0	83.0	74.0	14.0	160.0	72.0	73.0	1.0	NE.	W.	ESE.	160	78.0	81.0	79.0	79.3	.933	1.019	.952	.968	91	87	87	88	...	0	4	6	b.	Cs, b.	P, c.	
2	.797	.809	.872	.826	83.0	86.0	81.0	81.5	89.0	76.0	13.0	161.0	72.0	71.0	5.0	NE.	W.	ESE.	171	80.0	82.0	79.0	80.3	.985	1.040	.966	.997	87	84	91	87	...	0	4	4	b.	Cs, b.	Cs, b.	
3	.870	.822	.806	.832	81.0	85.0	86.0	82.0	89.0	76.0	13.0	159.0	70.0	73.0	3.0	NE.	W.	ESE.	137	79.0	81.0	83.0	81.0	.966	1.005	1.090	1.020	91	83	88	87	...	0	0	6	b.	b.	P, c.	
4	.827	.807	.824	.819	80.0	82.0	79.0	78.7	87.0	74.0	13.0	149.0	62.0	70.0	4.0	NE.	N.	E.	197	78.0	79.0	77.0	78.0	.933	.952	.902	.929	91	87	91	89	.72	0	4	10	b.	Cs, b.	Pc, o, r.	
5	.862	.809	.824	.831	81.0	83.0	84.0	80.5	88.0	74.0	14.0	161.0	73.0	73.0	1.0	NE.	N.	E.	197	80.0	79.0	81.0	80.0	1.012	.938	1.019	1.023	96	83	87	88	...	0	4	6	b.	Cs, b.	P, c.	
6	.870	.812	.824	.835	81.0	80.0	79.0	78.5	87.0	74.0	13.0	160.0	73.0	72.0	2.0	NE.	W.	E.	191	79.0	78.0	77.0	78.0	.966	1.012	.902	.960	91	91	91	91	...	0	4	0	b.	Cs, b.	P, c.	
7	.804	.809	.870	.827	81.0	83.0	79.0	78.2	87.0	74.0	13.0	150.0	63.0	73.0	1.0	NE.	N.	E.	188	79.0	79.0	77.0	78.3	.966	.938	.902	.935	91	83	91	88	...	0	4	6	Cs, b.	b.	P, c.	
8	.792	.794	.799	.795	85.0	80.0	81.0	80.0	83.0	74.0	14.0	159.0	71.0	72.0	2.0	NE.	N.	N.	218	81.0	78.0	79.0	79.3	.966	.933	.966	.968	83	91	91	88	1.35	4	0	6	Cs, b.	Pc, o, r.	P, c.	
9	.813	.799	.809	.807	80.0	83.0	79.0	79.0	87.0	74.0	13.0	150.0	63.0	73.0	1.0	NE.	N.	N.	222	78.0	80.0	77.0	78.3	1.005	.985	.902	.940	91	87	91	89	...	4	4	6	Cs, b.	Cs, b.	P, c.	
10	.792	.807	.799	.799	83.0	85.0	84.0	81.5	88.0	74.0	14.0	160.0	72.0	73.0	1.0	NE.	W.	N.	178	80.0	81.0	81.0	80.7	.933	1.005	1.019	1.003	87	83	87	85	.45	4	6	10	Cs, b.	P, c.	Pc, o, r.	
11	.804	.809	.807	.806	80.3	82.0	82.0	79.7	86.0	75.0	11.0	161.0	75.0	72.0	3.0	NE.	N.	N.	165	78.0	79.0	79.0	78.7	.985	.952	.952	.949	91	87	87	88	...	4	10	6	Cs, b.	Pc, o, r.	P, c.	
12	.794	.796	.812	.800	83.0	85.0	80.0	81.2	88.0	77.0	11.0	165.0	77.0	73.0	4.0	NE.	N.	E.	167	79.0	80.0	79.0	79.3	.933	.958	.979	.958	83	79	96	86	...	4	4	6	Cs, b.	Cs, b.	P, c.	
13	.812	.874	.824	.836	85.0	87.0	80.0	81.7	83.0	75.0	13.0	159.0	71.0	72.0	3.0	NE.	N.	E.	161	81.0	82.0	79.0	80.7	.938	1.027	.979	1.003	83	80	96	86	...	4	0	6	Cs, b.	b.	P, c.	
14	.794	.791	.786	.790	84.0	85.0	86.0	82.7	87.0	76.0	11.0	160.0	73.0	72.0	4.0	NE.	E.	E.	155	80.0	83.0	82.0	81.7	1.005	1.103	1.040	1.038	83	91	84	86	...	0	0	6	b.	b.	P, c.	
15	.782	.771	.794	.782	81.0	87.0	86.0	82.5	88.0	76.0	12.0	155.0	67.0	72.0	4.0	NNE.	E.	E.	178	79.0	83.0	81.0	81.0	.971	1.076	.992	1.011	91	84	80	85	...	0	4	6	b.	Cs, b.	P, c.	
16	.812	.867	.799	.826	85.0	80.0	81.0	80.0	89.0	76.0	13.0	161.0	72.0	73.0	3.0	ENE.	N.	ENE.	161	81.0	78.0	79.0	79.3	.966	.933	.966	.968	83	91	91	88	...	0	0	6	b.	b.	P, c.	
17	.819	.856	.796	.823	81.0	88.0	85.0	83.0	87.0	75.0	12.0	160.0	73.0	72.0	3.0	ENE.	N.	ENE.	195	78.0	82.0	80.0	80.0	1.005	1.013	.958	.950	75	76	79	76	...	4	4	6	Cs, b.	Cs, b.	P, c.	
18	.789	.794	.837	.806	85.0	84.0	84.0	82.2	87.0	76.0	11.0	161.0	74.0	72.0	4.0	ENE.	N.	ENE.	174	81.0	80.0	82.0	81.0	.879	.971	1.067	1.014	83	83	91	85	.66	0	4	10	b.	Cs, b.	Pc, o, r.	
19	.787	.789	.807	.794	83.0	80.0	84.0	80.7	89.0	76.0	13.0	150.0	61.0	71.0	5.0	ENE.	N.	ENE.	172	79.0	79.0	82.0	80.0	1.005	.979	1.067	.991	83	96	91	90	...	0	4	6	b.	Cs, b.	P, c.	
20	.799	.804	.787	.796	83.0	85.0	83.0	88.5	88.0	75.0	13.0	152.0	64.0	72.0	3.0	ENE.	N.	ENE.	169	80.0	81.0	81.0	80.7	.938	1.005	1.032	1.007	87	83	91	87	...	0	4	10	b.	Cs, b.	Pc, o, r.	
21	.792	.794	.804	.796	81.0	83.0	86.0	82.7	88.0	76.0	12.0	156.0	68.0	70.0	6.0	ENE.	NE.	ENE.	176	79.0	82.0	82.0	81.0	.985	1.013	1.040	1.006	91	76	84	83	...	0	0	6	b.	b.	P, c.	
22	.868	.787	.807	.827	81.0	83.0	81.0	80.0	87.0	75.0	12.0	160.0	73.0	73.0	2.0	ENE.	NE.	ENE.	182	79.0	79.0	78.0	78.7	.966	.938	.920	.934	91	83	87	87	...	0	4	6	b.	Cs, b.	P, c.	
23	.797	.774	.799	.790	80.0	87.0	85.0	81.7	86.0	75.0	11.0	165.0	79.0	73.0	2.0	ENE.	NE.	ENE.	160	79.0	80.0	81.0	80.0	.966	.931	1.005	.962	87	72	83	80	...	0	4	6	b.	Cs, b.	P, c.	
24	.792	.791	.817	.800	83.0	87.0	81.0	81.2	86.0	74.0	12.0	163.0	77.0	72.0	2.0	NNE.	NE.	ENE.	181	81.0	82.0	80.0	81.0	.952	1.027	1.012	1.023	91	80	96	89	...	4	4	6	b.	Cs, b.	P, c.	
25	.786	.796	.819	.800	85.0	85.0	81.0	81.2	86.0	74.0	12.0	160.0	74.0	73.0	1.0	NNE.	NE.	ENE.	163	82.0	83.0	80.0	81.7	1.032	1.103	1.012	1.056	87	91	96	91	...	0	4	6	b.	Cs, b.	P, c.	
26	.794	.794	.784	.790	85.0	88.0	85.0	83.2	88.0	75.0	13.0	152.0	64.0	72.0	3.0	NNE.	W.	ENE.	159	81.0	84.0	80.0	81.7	1.054	1.113	.958	1.025	83	84	79	82	...	0	4	6	b.	Cs, b.	P, c.	
27	.807	.806	.817	.810	81.0	85.0	83.0	81.0	86.0	75.0	11.0	155.0	67.0	71.0	4.0	NNE.	W.	E.	161	79.0	82.0	79.0	80.0	1.005	1.054	.938	.989	91	87	83	87	...	0	4	6	b.	Cs, b.	P, c.	
28	.781	.867	.809	.799	86.0	82.0	92.0	81.0	88.0	74.0	14.0	160.0	72.0	70.0	4.0	NNE.	SW.	W.	179	81.0	78.0	79.0	79.3	.966	.906	.952	.950	80	83	87	83	...	0	4	6	b.	Cs, b.	P, c.	
29	.869	.809	.802	.826	85.0	86.0	84.0	82.7	89.0	76.0	13.0	153.0	69.0	73.0	3.0	NNE.	SW.	W.	191	81.0	83.0	80.0	81.3	.992	1.090	.971	1.022	83	88	83	84	...	0	4	6	b.	Cs, b.	P, c.	
30	.802	.794	.809	.801	83.0	85.0	81.0	81.0	88.0	75.0	13.0	160.0	72.0	73.0	2.0	NNE.	SW.	W.	187	80.0	81.0	79.0	80.0	.985	1.005	.966	.985	87	83	91	87	...	0						

Highest Atmospheric Pressure 29.874 Inches  
 Lowest Atmospheric Pressure 29.781 "  
 In the Shade, { Highest Temperature 89° 0 Fah.  
 { Lowest Temperature 74° 0 "  
 Greatest Fall of Rain in 24 hours 1.35 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

W. HOAD,  
Colonial Surgeon.



**METEOROLOGICAL RESULTS OF THE MALACCA OBSERVATORY, FOR THE MONTH OF APRIL, 1890.**  
 12°14' N. Lat., 102°14' E. Long. Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			Velo- city.  Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	9 H.	15 H.	21 H.	°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%	9 H.	15 H.	21 H.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.</

Highest Atmospheric Pressure 29.902 inches.  
 Lowest Atmospheric Pressure 29.771 "  
 In the shade, } Highest Temperature 89.0° Fah.  
 } Lowest Temperature 74.0 "  
 Greatest Fall of Rain in 24 hours 1.25 inches.

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

W. ROAD,  
Colonial Surgeon.



**METEOROLOGICAL RESULTS OF THE MALACCA OBSERVATORY, FOR THE MONTH OF MAY, 1890.**  
 12°14' N. Lat., 102°14' E. Long. Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION .				RELATIV HUMI- DITY.				RAIN  [INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.								
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			Velo- city.	Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.		21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																									
1	29.784	29.814	29.800	29.799	80.0	84.0	80.0	81.3	87.0	73.0	14.0	170.0	83.0	70.0	3.0	NNE.	SW.	NNE.	213.1	78.0	82.0	75.0	79.3	.933	.671	.933	.845	.91	.91	.91	.91	...	4	0	6	Cs, b.	b.	P, c.					
2	.799	.820	.797	.805	81.0	86.0	79.0	82.0	88.0	71.0	17.0	172.0	84.0	70.0	1.0	NNE.	SSE.	NW.	147.2	80.0	82.0	78.0	80.0	1.012	1.040	.947	.999	.96	.84	.95	.91	...	0	4	6	b.	Cs, b.	P, c.					
3	.812	.816	.797	.808	83.0	85.0	79.0	82.3	88.0	75.0	13.0	153.0	65.0	73.0	2.0	NNE.	SSE.	E.	195.6	80.0	83.0	78.0	80.3	.983	1.103	.947	1.011	.87	.91	.95	.91	...	0	4	6	b.	Cs, b.	P, c.					
4	.797	.801	.792	.796	81.0	85.0	80.0	82.0	88.0	74.0	14.0	160.0	72.0	72.0	2.0	NNE.	SW.	E.	156.3	79.0	82.0	79.0	80.0	.966	1.054	.979	.999	.91	.87	.96	.91	...	4	4	6	Cs, b.	Cs, b.	P, c.					
5	.807	.816	.779	.800	83.0	85.0	80.0	82.6	88.0	76.0	12.0	159.0	71.0	73.0	3.0	NNE.	SW.	E.	158.7	82.0	83.0	78.0	81.0	1.081	1.103	.933	1.039	.96	.91	.91	.92	...	0	4	6	b.	Cs, b.	P, c.					
6	.787	.821	.794	.800	82.0	84.0	80.0	82.0	89.0	75.0	14.0	158.0	69.0	70.0	5.0	NNE.	SW.	W.	163.8	80.0	83.0	79.0	80.6	.928	1.117	.979	1.031	.91	.96	.96	.94	...	0	0	6	b.	b.	P, c.					
7	.782	.814	.784	.794	79.0	85.0	80.0	81.3	89.0	76.0	13.0	158.0	69.0	70.0	6.0	NNE.	SW.	E.	175.4	78.0	81.0	79.0	79.3	.947	1.005	.979	.977	.95	.83	.96	.91	...	0	4	6	b.	Cs, b.	P, c.					
8	.783	.816	.803	.800	80.0	85.0	79.0	81.3	88.0	72.0	16.0	159.0	72.0	71.0	1.0	NNE.	SW.	E.	160.0	79.0	83.0	78.0	80.3	.979	1.001	.947	.975	.96	.91	.95	.94	...	4	0	6	Cs, b.	b.	P, c.					
9	.782	.814	.794	.796	80.0	85.0	79.0	81.3	88.0	74.0	14.0	153.0	65.0	72.0	2.0	ENE.	SW.	E.	163.8	78.0	82.0	77.0	79.0	.933	1.054	.902	.963	.91	.87	.91	.83	...	0	4	6	b.	Cs, b.	P, c.					
10	.787	.814	.802	.801	80.0	86.0	80.0	82.0	87.0	71.0	16.0	157.0	70.0	70.0	1.0	NE.	WSW.	E.	152.5	78.0	82.0	78.0	79.3	.933	1.040	.933	.968	.91	.84	.91	.88	...	0	4	6	b.	Cs, b.	P, c.					
11	.797	.799	.807	.801	80.0	84.0	79.0	81.0	86.0	72.0	14.0	156.0	70.0	70.0	2.0	NE.	WSW.	E.	159.3	78.0	80.0	77.0	78.3	.933	.971	.902	.935	.91	.83	.91	.83	...	4	0	6	Cs, b.	b.	P, c.					
12	.789	.821	.807	.805	79.0	84.0	78.0	80.3	88.0	74.0	14.0	160.0	72.0	72.0	2.0	NE.	WSW.	E.	156.1	78.0	80.0	77.0	78.3	.947	.971	.916	.944	.95	.83	.95	.91	...	0	4	8	b.	Cs, b.	Pc, o.					
13	.802	.811	.784	.799	81.0	85.0	80.0	82.0	88.0	74.0	14.0	159.0	71.0	72.0	2.0	NE.	SW.	W.	165.4	80.0	81.0	78.0	79.6	1.012	1.005	.933	.983	.96	.83	.91	.90	...	4	0	6	Cs, b.	b.	P, c.					
14	.784	.816	.787	.795	80.0	85.0	79.0	81.3	87.0	72.0	15.0	157.0	70.0	71.0	1.0	E.	SW.	W.	146.2	74.0	83.0	77.0	79.3	.933	1.103	.902	.979	.91	.91	.91	.91	1.41	0	4	10	b.	Cs, b.	Pc, o, r.					
15	.792	.814	.812	.806	79.0	82.0	79.0	80.3	87.0	75.0	12.0	156.0	69.0	70.0	5.0	E.	SW.	SE.	151.5	77.0	79.0	78.0	78.0	.916	.952	.947	.938	.91	.87	.95	.91	1.40	0	4	10	b.	Cs, b.	Pc, o, r.					
16	.782	.799	.797	.792	80.0	85.0	78.0	81.0	88.0	72.0	16.0	158.0	70.0	71.0	1.0	E.	W.	W.	172.9	78.0	80.0	77.0	78.3	.933	.938	.916	.929	.91	.79	.95	.88	...	4	0	6	Cs, b.	b.	P, c.					
17	.797	.801	.827	.802	79.0	85.0	80.0	81.3	89.0	76.0	13.0	160.0	71.0	72.0	4.0	N.	W.	W.	197.4	78.0	83.0	78.0	79.6	.947	1.103	.933	.994	.95	.91	.91	.92	...	4	0	6	Cs, b.	b.	P, c.					
18	.811	.819	.792	.807	80.0	86.0	80.0	82.0	88.0	76.0	12.0	156.0	68.0	71.0	5.0	N.	W.	W.	164.3	79.0	82.0	78.0	79.6	.979	1.040	.933	.984	.96	.84	.91	.90	...	0	4	6	b.	Cs, b.	P, c.					
19	.797	.821	.806	.808	81.0	84.0	80.0	81.6	88.0	76.0	12.0	155.0	67.0	70.0	6.0	N.	W.	W.	172.8	79.0	80.0	78.0	79.0	.966	.971	.933	.956	.91	.83	.91	.88	...	0	10	6	Cs, b.	Pc, o, r.	P, c.					
20	.796	.802	.807	.801	82.0	87.0	80.0	83.0	88.0	76.0	12.0	162.0	74.0	73.0	3.0	W.	W.	W.	198.0	80.0	82.0	79.0	80.3	.998	1.027	.979	1.001	.91	.80	.96	.89	...	4	0	6	Cs, b.	b.	P, c.					
21	.797	.811	.787	.798	80.0	84.0	79.0	81.0	87.0	75.0	12.0	152.0	65.0	70.0	5.0	ENE.	W.	E.	151.3	78.0	82.0	77.0	79.0	.933	1.067	.902	.967	.91	.91	.91	.91	...	4	0	6	Cs, b.	b.	P, c.					
22	.796	.799	.822	.805	79.0	83.0	80.0	80.6	88.0	76.0	12.0	154.0	66.0	71.0	5.0	E.	SW.	E.	146.5	78.0	80.0	78.0	78.6	.947	.983	.933	.954	.95	.87	.91	.91	.37	0	0	6	b.	b.	P, c.					
23	.804	.824	.797	.811	81.0	84.0	80.0	81.6	87.0	75.0	12.0	156.0	69.0	71.0	5.0	E.	SW.	E.	147.0	78.0	81.0	79.0	79.3	.920	1.019	.979	.972	.97	.87	.96	.90	...	0	4	0	b.	Cs, b.	b.					
24	.794	.823	.811	.809	83.0	87.0	81.0	83.6	88.0	78.0	10.0	153.0	70.0	72.0	6.0	E.	W.	W.	178.6	80.0	82.0	79.0	80.3	.983	1.027	.966	.992	.97	.80	.91	.86	...	0	4	6	b.	Cs, b.	P, c.					
25	.787	.789	.787	.787	82.0	85.0	80.0	82.3	87.0	76.0	11.0	159.0	72.0	73.0	3.0	E.	W.	W.	177.3	78.0	82.0	79.0	79.6	.906	1.054	.979	.979	.83	.87	.96	.88	...	0	4	6	b.	Cs, b.	P, c.					
26	.802	.791	.792	.795	81.0	85.0	81.0	82.3	88.0	75.0	13.0	160.0	72.0	72.0	3.0	E.	W.	W.	186.5	79.0	83.0	78.0	80.0	.966	1.103	.920	.996	.91	.91	.91	.91	...	0	4	6	b.	Cs, b.	P, c.					
27	.794	.789	.794	.792	80.0	85.0	80.0	81.6	88.0	75.0	13.0	156.0	68.0	72.0	3.0	E.	W.	W.	170.8	78.0	83.0	79.0	80.0	.933	1.103	.979	1.005	.91	.91	.96	.92	...	4	0	6	Cs, b.	b.	P, c.					
28	.799	.828	.817	.814	83.0	85.0	79.0	82.3	87.0	76.0	11.0	158.0	71.0	73.0	3.0	NE.	W.	W.	167.4	80.0	82.0	78.0	80.0	.983	1.054	.947	.994	.87	.87	.95	.89	...	6	4	8	P, c.	Cs, b.	Pc, o.					
29	.813	.824	.807	.814	79.0	84.0	79.0	80.6	87.0	75.0	12.0	153.0	65.0	72.0	3.0	NSW.	W.	SW.	177.0	78.0	82.0	77.0	79.0	.947	1.067	.902	.972																

Highest Atmospheric Pressure 29.828 Inches.  
 Lowest Atmospheric Pressure 29.779 "  
 In the shade, { Highest Temperature 89.0° Fah.  
                   { Lowest Temperature 71.0° "  
 Greatest Fall of Rain in 24 hours 1.83 inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

W. HOAD,  
 Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE MALACCA OBSERVATORY, FOR THE MONTH OF JUNE, 1890.

12°14' N. Lat., 102°14' E. Long.

Height of Bar Cistern above Sea Level, 12 ft.

DATE	BAROMETER—REDUCED TO 32 °				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			TEMPERATURE OF EVAPORATION.	COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN  INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.							
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.				Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	29.930	29.940	29.918	29.929	82.0	81.0	82.0	82.6	88.0	78.0	10.0	162.0	74.0	71.0	7.0	NE.	W.	W.	183.0	81.0	79.0	81.0	80.3	1.046	.925	1.046	1.005	96	79	96	90	1.64	0	4	0	b.	Cs, b.	Pc, o, r.	
2	.936	.996	.920	.950	85.0	88.0	86.0	86.3	89.0	76.0	13.0	159.0	70.0	73.0	3.0	NE.	W.	SSW.	179.0	82.0	81.0	82.0	81.6	1.054	.965	1.040	1.019	87	73	84	81	...	0	4	6	b.	Cs, b.	P, c.	
3	801	856	812	836	84.0	86.0	83.0	84.3	86.0	75.0	11.0	158.0	72.0	73.0	2.0	NE.	W.	SSW.	152.0	82.0	84.0	81.0	82.3	1.067	1.146	1.032	1.081	91	92	91	91	...	10	4	6	Pc, o, r.	Cs, b.	P, c.	
4	792	796	807	798	82.0	85.0	83.0	83.3	85.0	76.0	9.0	160.0	75.0	72.0	4.0	NE.	W.	E.	154.0	79.0	82.0	79.0	80.0	.952	1.054	.938	.981	87	87	83	85	...	0	0	6	b.	b.	P, c.	
5	797	821	803	808	81.0	84.0	80.0	81.6	88.0	77.0	11.0	161.0	73.0	73.0	4.0	NE.	W.	E.	168.0	79.0	80.0	78.0	79.0	.966	.971	.933	.958	91	83	91	88	.25	0	4	10	L.	Cs, b.	Pc, o, r.	
6	797	.04	824	808	79.0	85.0	81.0	81.6	86.0	75.0	11.0	152.0	66.0	72.0	3.0	E.	W.	E.	167.0	78.0	81.0	79.0	79.3	.947	1.005	.966	.972	95	83	91	89	...	0	4	5	b.	Cs, b.	P, c.	
7	812	824	836	824	83.0	85.0	84.0	84.0	87.0	77.0	10.0	154.0	67.0	73.0	4.0	E.	W.	E.	172.0	80.0	82.0	82.0	81.3	.985	1.054	1.067	1.035	87	87	91	88	...	0	4	6	b.	Cs, b.	P, c.	
8	801	784	812	799	84.0	86.0	83.0	84.3	86.0	75.0	11.0	158.0	72.0	72.0	3.0	E.	W.	E.	191.0	82.0	84.0	81.0	82.3	1.067	1.146	1.032	1.081	91	92	91	91	1.15	4	0	10	Cs, b.	b.	Pc, o, r.	
9	930	.945	.926	.933	84.0	88.0	85.0	85.6	88.0	74.0	13.0	152.0	64.0	72.0	3.0	E.	W.	E.	168.0	79.0	84.0	80.0	81.0	.925	1.113	.958	.998	99	84	79	80	.30	0	4	10	b.	Cs, b.	Pc, o, r.	
10	797	.799	.784	.790	80.0	84.0	79.0	81.0	86.0	74.0	12.0	150.0	70.0	70.0	4.0	W.	W.	NE.	174.0	73.0	80.0	77.0	78.3	.933	.971	.902	.935	91	83	91	88	1.52	0	4	10	b.	Cs, b.	Pc, o, r.	
11	789	821	807	805	79.0	84.0	78.0	80.3	83.0	76.0	12.0	160.0	72.0	72.0	4.0	N.	WSW.	NE.	181.0	78.0	80.0	77.0	78.3	.947	.971	.916	.944	95	83	95	91	...	0	0	6	b.	b.	P, c.	
12	789	821	790	806	79.0	84.0	79.0	80.6	85.0	76.0	9.0	160.0	75.0	72.0	4.0	N.	WSW.	NE.	166.0	78.0	80.0	77.0	78.3	.947	.971	.902	.940	95	83	91	89	.31	4	0	10	Cs, b.	b.	Pc, o, r.	
13	795	821	784	800	80.0	85.0	81.0	82.0	85.0	76.0	9.0	159.0	74.0	71.0	5.0	N.	WSW.	NE.	169.0	79.0	78.0	79.0	79.3	.979	.866	.966	.933	96	72	91	86	...	0	4	6	b.	Cs, b.	P, c.	
14	784	785	784	784	81.0	85.0	80.0	82.0	88.0	76.0	12.0	159.0	71.0	72.0	4.0	E.	WSW.	E.	158.0	80.0	81.0	78.0	79.6	1.012	1.005	.933	.983	96	96	91	94	...	0	0	6	b.	b.	P, c.	
15	792	792	782	788	80.0	85.0	81.0	82.0	88.0	76.0	12.0	159.0	71.0	71.0	5.0	E.	W.	E.	182.0	79.0	84.0	80.0	81.0	.979	1.154	1.012	1.048	96	96	96	96	.23	0	4	10	b.	Cs, b.	Pc, o, r.	
16	797	799	784	793	80.0	84.0	79.0	81.0	85.0	74.0	11.0	160.0	75.0	70.0	4.0	E.	W.	E.	161.0	79.0	80.0	77.0	82.0	.979	.971	.902	.950	96	83	91	90	...	4	0	6	Cs, b.	b.	P, c.	
17	799	804	787	796	80.0	86.0	80.0	82.0	86.0	76.0	10.0	159.0	73.0	71.0	5.0	E.	S.	E.	158.0	78.0	82.0	78.0	79.3	.933	1.040	.933	.968	91	84	91	88	...	0	4	6	b.	Cs, b.	P, c.	
18	784	814	800	799	80.0	84.0	80.0	81.3	87.0	73.0	14.0	160.0	73.0	71.0	2.0	E.	S.	E.	163.0	78.0	82.0	78.0	79.3	.933	1.067	.933	.977	91	91	91	91	...	0	0	6	b.	b.	P, c.	
19	778	794	782	788	80.0	85.0	81.0	82.0	86.0	72.0	14.0	161.0	75.0	70.0	2.0	E.	S.	ESE.	172.0	79.0	82.0	78.0	79.6	.979	1.054	.920	.984	96	87	87	90	.50	4	0	10	Cs, b.	b.	Pc, o, r.	
20	787	804	794	795	82.0	84.0	82.0	82.6	86.0	72.0	14.0	155.0	72.0	70.0	2.0	W.	S.	ESE.	176.0	80.0	82.0	81.0	81.0	1.012	1.067	1.046	1.041	96	91	96	94	...	0	0	6	b.	b.	P, k.	
21	779	797	789	788	81.0	83.0	82.0	82.0	86.0	76.0	10.0	159.0	73.0	71.0	5.0	N.	S.	ESE.	172.0	79.0	82.0	81.0	80.6	.966	1.081	1.046	1.031	91	96	96	94	...	4	0	6	Cs, b.	b.	P, k.	
22	794	801	792	795	82.0	84.0	81.0	82.3	86.0	74.0	12.0	160.0	74.0	73.0	1.0	N.	S.	ESE.	166.0	80.0	82.0	80.0	80.6	.998	1.067	1.012	1.025	91	91	96	92	...	0	0	6	b.	b.	P, c.	
23	782	806	789	792	82.0	85.0	82.0	83.0	86.0	75.0	11.0	159.0	73.0	71.0	4.0	W.	S.	ESE.	155.0	81.0	82.0	81.0	81.3	1.046	1.054	1.046	1.048	96	87	96	93	...	4	0	6	Cs, b.	b.	P, k.	
24	792	821	799	804	83.0	85.0	84.0	84.0	86.0	76.0	10.0	161.0	75.0	70.0	6.0	W.	S.	ESE.	148.0	79.0	80.0	81.0	80.0	.938	.958	1.019	.971	83	79	87	83	...	4	0	6	Cs, b.	b.	P, c.	
25	802	819	794	.005	82.0	84.0	83.0	83.0	86.0	76.0	10.0	160.0	74.0	72.0	4.0	N.	S.	E.	151.0	80.0	81.0	80.0	80.3	.998	1.019	.985	.971	91	87	87	88	...	0	4	8	b.	Cs, b.	Pc, o.	
26	787	795	792	790	80.0	85.0	82.0	82.3	88.0	76.0	12.0	160.0	72.0	71.0	5.0	SW.	S.	E.	153.0	79.0	81.0	80.0	85.0	.979	1.005	.998	.994	96	96	91	94	.85	4	0	10	Cs, b.	b.	Pc, o, r.	
27	784	814	770	789	80.0	84.0	80.0	81.3	87.0	73.0	14.0	160.0	73.0	72.0	1.0	S.	SE.	E.	161.0	78.0	82.0	78.0	79.3	.933	1.671	.933	1.179	91	91	91	91	...	6	0	6	P, c.	b.	P, c.	
28	788	801	794	794	80.0	84.0	80.0	81.3	86.0	74.0	12.0	159.0	73.0	71.0	3.0	ESE.	SE.	E.	153.0	78.0	82.0	78.0	79.3	.933	1.067	.933	.977	91	91	91	91	...	0	0	6	b.	b.	P, c.	
29	794	809	794	799	81.0	84.0	86.0	83.6	87.0	73.0	14.0	160.0	73.0	71.0	2.0	ESE.	WSW.	E.	148.0	78.0	82.0	78.0	80.0	1.012	1.671	.852	1.178	96	91	63	85	...	4	0	6	Cs, b.	b.	P, c.	
30	804	816	812	810	79.0	85.0	79.0	81.0	86.0	75.0	11.0	160.0	74.0	73.0	2.0	ESE.	WSW.	E.	160.0	77.0	83.0	78.0	79.3	.902	1.103	.947	.984	91	91	95	92	.50	0	0	10	b.	b.	Pc, o, r.	
31																																							

Highest Atmospheric Pressure 29.996 Inches.  
 Lowest Atmospheric Pressure 29.770 "  
 In the shade, { Highest Temperature 89.0° Fah.  
 { Lowest Temperature 72.0°  
 Greatest Fall of Rain in 24 hours 1.64Inche

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

W. HOAD,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE MALACCA OBSERVATORY, FOR THE MONTH OF JULY, 1890.

12° 14' N. Lat., 102° 14' E. Long.

Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Velo- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.				
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.		
																9 H.	15 H.																					21 H.	Total Miles.
	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NE.	S.	E.		°F.	°F.	°F.	°F.	Ins.	Ins.	Ins.	Ins.	%	%	%	%		9 H.	15 H.	21 H.			
1	29.786	29.796	29.792	29.791	85.0	85.0	81.0	83.6	86.0	74.0	12.0	160.0	74.0	73.0	1.0	NE.	S.	E.	175.5	82.0	83.0	80.0	81.6	1.054	1.110	.966	1.043	87	91	91	89	...	4	0	6	Cs, b.	b.	P, k.	
2	.794	.794	.784	.790	85.0	88.0	85.0	86.0	86.0	74.0	12.0	152.0	66.0	72.0	2.0	W.	S.	E.	139.0	79.0	82.0	79.0	80.0	.911	1.013	.911	.945	76	76	76	70	.03	4	10	b.	Cs, b.	Pc, o. r.		
3	.807	.806	.807	.806	81.0	85.0	83.0	83.0	86.0	75.0	11.0	155.0	69.0	71.0	4.0	W.	SSW.	E.	182.2	78.0	80.0	77.0	78.3	.920	.958	.848	.908	87	79	75	80	.34	0	4	10	b.	Cs, b.	Pc, o. r.	
4	.797	.799	.784	.793	80.0	84.0	79.0	81.0	86.0	74.0	12.0	156.0	70.0	70.0	4.0	W.	SSW.	E.	180.0	78.0	80.0	77.0	78.3	.933	.971	.902	.935	91	83	91	88	...	0	4	6	b.	Cs, b.	P, c.	
5	.789	.821	.807	.805	79.0	84.0	79.0	80.6	88.0	76.0	12.0	160.0	72.0	72.0	4.0	W.	SSW.	ESE.	176.6	77.0	79.0	78.0	78.0	.902	.925	.947	.924	91	79	95	91	.14	10	4	10	Pc, o. r.	Cs, b.	Pc, o. r.	
6	.805	.814	.812	.811	79.0	82.0	79.0	80.0	87.0	74.0	13.0	156.0	69.0	70.0	4.0	W.	SSW.	ESE.	179.0	78.0	80.0	77.0	78.3	.947	.998	.902	.949	95	91	91	92	.16	4	6	10	Cs, b.	P, c.	Pc, o. r.	
7	.782	.799	.797	.792	80.0	85.0	78.0	81.0	88.0	75.0	13.0	153.0	70.0	72.0	3.0	NE.	SSW.	E.	166.0	78.0	80.0	77.0	78.3	.933	.958	.916	.935	91	79	95	91	...	4	0	6	Cs, b.	b.	P, c.	
8	.794	.804	.799	.799	80.0	83.0	79.0	80.6	87.0	74.0	13.0	150.0	63.0	72.0	2.0	NE.	SSW.	E.	166.4	79.0	80.0	77.0	78.6	.979	.985	.902	.955	96	87	91	91	...	0	0	6	b.	b.	P, c.	
9	.813	.799	.809	.807	80.0	83.0	79.0	80.6	87.0	74.0	13.0	150.0	63.0	73.0	1.0	W.	SSW.	E.	169.0	78.0	80.0	77.0	78.3	.933	.985	.902	.940	91	87	91	89	.55	4	4	10	Cs, b.	Cs, b.	Pc, o. r.	
10	.792	.807	.799	.799	83.0	85.0	84.0	84.0	88.0	74.0	14.0	160.0	72.0	73.0	1.0	W.	SSW.	W.	173.5	80.0	81.0	81.0	80.6	.985	1.005	1.019	1.003	87	83	87	85	1.00	6	6	10	P, c.	P, c.	Pc, o. r.	
11	.804	.809	.807	.806	80.0	82.0	82.0	81.3	86.0	75.0	11.0	161.0	75.0	72.0	3.0	W.	S.	W.	189.2	78.0	79.0	79.0	78.6	.933	.952	.952	.949	91	87	87	88	...	0	4	10	b.	Cs, b.	Pc, o. r.	
12	.794	.796	.812	.800	83.0	85.0	80.0	82.6	88.0	77.0	11.0	165.0	77.0	73.0	4.0	W.	WSW.	WSW.	198.3	79.0	80.0	79.0	79.3	.938	.958	.979	.958	83	79	96	86	.90	4	0	10	Cs, b.	b.	Pc, o. r.	
13	.812	.874	.824	.836	85.0	87.0	80.0	84.0	88.0	75.0	13.0	159.0	71.0	72.0	3.0	NNE.	WSW.	WSW.	216.0	81.0	82.0	79.0	80.6	1.005	1.027	.979	1.003	83	80	96	86	.50	4	4	10	Cs, b.	Cs, b.	Pc, o. r.	
14	.794	.791	.786	.790	84.0	85.0	86.0	81.6	87.0	76.0	11.0	160.0	73.0	72.0	4.0	W.	WSW.	WSW.	258.3	80.0	83.0	82.0	81.6	.971	1.103	1.040	1.038	83	91	84	86	4.40	6	10	10	P, c.	Pc, o. r.	Pc, o. r.	
15	.782	.771	.794	.782	81.0	87.0	86.0	84.6	88.0	76.0	12.0	155.0	67.0	72.0	4.0	S.	S.	WSW.	287.0	79.0	83.0	81.0	81.0	.966	1.076	.992	1.011	91	84	80	85	...	4	6	6	Cs, b.	P, k.	P, k.	
16	.812	.867	.799	.826	85.0	80.0	81.0	82.0	89.0	76.0	13.0	161.0	72.0	73.0	3.0	S.	S.	WSW.	264.6	81.0	78.0	79.0	79.3	1.005	.933	.966	.968	83	91	91	88	.12	4	4	10	Cs, b.	Cs, b.	Pc, o. r.	
17	.819	.856	.796	.823	84.0	88.0	85.0	85.6	87.0	76.0	12.0	160.0	73.0	72.0	3.0	S.	W.	S.	252.3	78.0	82.0	80.0	80.0	.879	1.013	.958	.950	75	76	79	76	.08	4	6	10	Cs, b.	P, k.	Pc, o. r.	
18	.789	.794	.837	.806	85.0	84.0	84.0	83.0	87.0	76.0	11.0	161.0	74.0	72.0	4.0	WSW.	W.	S.	249.0	81.0	80.0	82.0	81.0	1.005	.971	1.067	1.014	83	83	90	85	...	4	4	6	Cs, b.	Cs, b.	P, c.	
19	.787	.789	.807	.794	83.0	80.0	84.0	82.3	89.0	76.0	13.0	150.0	61.0	71.0	5.0	W.	W.	S.	226.0	79.0	79.0	82.0	80.0	.938	.979	1.067	.991	83	96	91	90	...	6	4	6	P, c.	Cs, b.	P, k.	
20	.799	.804	.787	.796	83.0	85.0	83.0	83.6	88.0	75.0	13.0	152.0	64.0	72.0	3.0	W.	W.	S.	215.5	80.0	81.0	81.0	80.6	.985	1.005	1.032	1.007	87	83	91	87	.27	4	6	10	Cs, b.	P, c.	Pc, o. r.	
21	.792	.794	.804	.796	81.0	88.0	86.0	85.0	88.0	76.0	12.0	156.0	68.0	70.0	6.0	W.	W.	S.	192.0	79.0	82.0	82.0	81.0	.966	1.013	1.040	1.006	91	76	84	83	...	4	0	6	Cs, b.	b.	P, k.	
22	.868	.787	.807	.820	81.0	83.0	81.0	81.6	87.0	75.0	12.0	160.0	73.0	73.0	2.0	E.	SW.	SSW.	175.2	79.0	79.0	78.0	78.6	.966	.938	.920	1.034	91	83	87	87	...	4	0	6	Cs, b.	b.	P.	
23	.797	.774	.799	.790	80.0	87.0	85.0	84.0	86.0	75.0	11.0	165.0	79.0	73.0	2.0	E.	SE.	SSW.	180.0	79.0	80.0	81.0	80.0	.952	.931	1.005	.962	87	72	83	80	.13	4	0	10	Cs, b.	b.	Pc, o. r.	
24	.897	.818	.807	.840	83.0	88.0	81.0	84.0	88.0	74.0	14.0	154.0	66.0	70.0	4.0	E.	W.	SSW.	150.0	80.0	86.0	80.0	82.0	.985	1.218	.992	1.065	87	94	96	92	...	0	4	6	b.	Cs, b.	P, c.	
25	.895	.807	.797	.833	79.0	88.0	82.0	83.0	90.0	75.0	15.0	152.0	62.0	72.0	3.0	W.	SW.	SSW.	200.0	78.0	84.0	81.0	81.0	.947	1.113	1.046	1.035	95	84	96	91	1.13	4	4	10	Cs, b.	Cs, b.	Pc, o. r.	
26	.802	.799	.808	.803	83.0	90.0	84.0	85.6	90.0	77.0	13.0	152.0	62.0	73.0	4.0	W.	W.	E.	231.5	81.0	84.0	82.0	82.3	1.032	1.086	1.067	1.061	91	77	91	86	...	10	4	6	Pc, o. r.	Cs, b.	P, c.	
27	.797	.814	.809	.806	83.0	88.0	82.0	84.3	90.0	77.0	13.0	163.0	63.0	73.0	4.0	W.	W.	WSW.	215.0	80.0	83.0	80.0	81.0	.985	1.063	.998	1.015	87	80	91	86	...	4	0	6	Cs, b.	b.	P, c.	
28	.786	.796	.817	.799	85.0	85.0	81.0	83.6	86.0	74.0	12.0	160.0	74.0	73.0	1.0	W.	W.	WSW.	242.6	82.0	83.0	80.0	81.6	1.054	1.103	1.012	1.056	87	91	96									

Highest Atmospheric Pressure 29.897 Inches.

Lowest Atmospheric Pressure 29.771 "

In the shade, { Highest Temperature 90.0° Fah.  
Lowest Temperature 74.0° "  
Greatest Fall of Rain in 24 hours 4.40 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

W. HOAD,  
Colonial Surgeon.



**METEOROLOGICAL RESULTS OF THE MALACCA HOSPITAL OBSERVATORY, FOR THE MONTH OF AUGUST, 1890.**  
 12° 14' N. Lat., 102° 14' E. Long. Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.				TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMI- DITY.				RAIN.  Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.

Highest Atmospheric Pressure 29.914 Inches  
 Lowest Atmospheric Pressure 29.713 "  
 In the Shade { Highest Temperature 90.° Fah.  
 Lowest Temperature 72.° "  
 Greatest Fall of Rain in 24 hours 2.50 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

W. HOAD  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE MALACCA OBSERVATORY, FOR THE MONTH OF SEPTEMBER, 1890.

12° 14' N. Lat., 102° 14' E. Long.

Height of Bar Cistern above Sea Level, 12 ft.

DATE	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.		Velo- city.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN  INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.							
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.			9 H.	15 H.	21 H.	Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.		9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.	
																9 H.	15 H.																									21 H.
1	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	NE.	SW.	NE.	163.4	79.0	80.0	78.0	79.0	Ins.	Ins.	Ins.	Ins.	%	%	%	%	2.30	10	10	10	Pc, o, r.	Pc, o, r.	Pc, o, r.				
2	810	838	798	815	83.0	84.0	81.0	81.2	89.0	77.0	12.0	150.0	61.0	73.0	4.0	NW.	NNE.	NE.	157.1	79.0	80.0	80.0	79.7	938	971	1012	973	83	83	96	87	.20	6	0	10	P, c.	b.	Pc, o, r.				
3	802	801	792	798	81.0	87.0	79.0	80.5	88.0	75.0	13.0	163.0	75.0	73.0	2.0	NW.	SE.	NE.	147.2	80.0	80.0	78.0	79.3	1012	931	947	963	96	87	95	87	.14	6	4	10	P, c.	Cs, b.	Pc, o, r.				
4	827	807	824	817	80.0	82.0	79.0	81.2	87.0	74.0	13.0	156.0	69.0	71.0	3.0	NW.	SE.	NE.	158.8	78.0	79.0	78.0	78.7	933	952	947	944	91	87	95	91	.22	6	4	10	P, c.	Cs, b.	Pc, o, r.				
5	739	809	824	807	81.0	83.0	84.0	80.5	88.0	74.0	14.0	160.0	72.0	73.0	1.0	ENE.	SE.	E.	161.5	80.0	79.0	81.0	80.0	1012	938	1005	985	96	83	83	87	...	4	0	6	Cs, b.	b.	P, c.				
6	792	807	799	799	83.0	85.0	84.0	81.5	88.0	74.0	14.0	160.0	72.0	72.0	2.0	W.	SSW.	E.	198.6	80.0	81.0	81.0	80.7	985	1005	1019	1003	87	83	87	85	.40	0	4	10	b.	Cs, b.	Pc, o, r.				
7	794	802	809	801	83.0	85.0	81.0	81.0	88.0	75.0	13.0	160.0	72.0	73.0	2.0	W.	SSW.	E.	153.7	80.0	81.0	79.0	80.0	985	1005	966	985	87	83	91	87	...	4	4	6	Cs, b.	Cs, b.	P, c.				
8	789	804	791	794	80.0	85.0	82.0	80.2	88.0	74.0	14.0	158.0	70.0	70.0	4.0	N.	SSW.	N.	146.4	81.0	79.0	81.0	80.3	1019	952	1005	992	87	87	83	85	...	0	0	6	b.	b.	P, c.				
9	800	801	792	797	80.0	85.0	78.0	82.0	88.0	75.0	13.0	158.0	70.0	72.0	3.0	N.	SSW.	N.	149.3	79.0	80.0	77.0	78.7	979	958	916	951	96	79	95	90	...	0	4	6	Cs, b.	b.	P, c.				
10	789	811	792	797	81.0	85.0	80.0	80.0	86.0	74.0	12.0	159.0	73.0	71.0	3.0	N.	SSW.	N.	147.8	78.0	80.0	78.0	78.7	920	958	933	937	87	79	91	85	1.41	0	4	10	Cs, b.	b.	Pc, o, r.				
11	784	806	794	794	83.0	86.0	81.0	81.2	89.0	75.0	14.0	160.0	71.0	72.0	3.0	N.	SSW.	N.	163.0	80.0	82.0	79.0	80.3	985	1040	966	997	87	84	91	87	1.50	0	0	10	b.	b.	Pc, o, r.				
12	810	794	792	798	81.0	83.0	82.0	80.2	88.0	75.0	13.0	159.0	71.0	73.0	2.0	N.	W.	E.	203.4	78.0	80.0	80.0	79.3	920	985	998	967	87	87	91	88	...	4	0	6	Cs, b.	b.	P, c.				
13	792	789	819	800	80.0	85.0	80.0	80.2	89.0	76.0	13.0	155.0	66.0	72.0	4.0	W.	W.	E.	235.3	78.0	80.0	79.0	79.0	933	958	979	956	91	79	96	88	...	0	0	6	b.	b.	P, c.				
14	808	789	779	791	81.0	85.0	80.0	80.0	88.0	74.0	14.0	155.0	67.0	73.0	1.0	N.	W.	E.	169.9	79.0	82.0	80.0	80.3	1012	1103	933	1016	96	91	91	92	...	4	0	6	Cs, b.	b.	P, c.				
15	799	799	812	803	81.0	84.0	83.0	80.5	88.0	74.0	14.0	155.0	67.0	73.0	1.0	N.	W.	E.	157.4	79.0	82.0	80.0	80.3	966	1067	985	1006	91	91	87	89	...	4	0	6	Cs, b.	b.	P, c.				
16	794	804	787	795	83.0	85.0	83.0	81.2	87.0	74.0	13.0	160.0	73.0	72.0	2.0	N.	W.	E.	165.3	80.0	82.0	80.0	80.7	985	1054	985	1008	87	87	87	87	...	4	0	6	Cs, b.	b.	P, c.				
17	787	796	787	790	82.0	86.0	84.0	81.5	88.0	74.0	14.0	159.0	71.0	70.0	4.0	N.	W.	W.	213.4	80.0	82.0	81.0	81.0	998	1040	1019	1019	91	84	87	87	...	4	0	6	Cs, b.	b.	P, c.				
18	792	789	814	798	83.0	86.0	83.0	82.0	89.0	76.0	13.0	160.0	71.0	72.0	4.0	N.	W.	W.	139.9	80.0	82.0	81.0	81.0	985	1040	1032	985	87	84	91	87	...	4	0	6	Cs, b.	b.	P, c.				
19	792	814	812	806	79.0	82.0	79.0	81.0	87.0	74.0	13.0	156.0	69.0	72.0	2.0	N.	W.	ESE.	137.5	77.0	79.0	78.0	78.0	902	952	947	933	91	87	95	91	.84	4	4	10	Cs, b.	Cs, b.	Pc, o, r.				
20	782	799	797	792	80.0	85.0	78.0	82.0	88.0	75.0	13.0	160.0	72.0	71.0	4.0	W.	WSW.	ESE.	246.3	78.0	80.0	77.0	78.3	933	958	916	935	91	79	95	88	...	0	0	6	b.	b.	P, c.				
21	797	801	827	808	79.0	85.0	80.0	80.0	89.0	76.0	13.0	160.0	71.0	72.0	4.0	NNW.	W.	W.	170.0	78.0	83.0	78.0	79.7	947	1103	933	1027	95	81	91	92	...	0	4	4	b.	Cs, b.	Cs, b.				
22	809	804	787	800	80.0	86.0	80.0	80.2	88.0	75.0	13.0	157.0	69.0	70.0	5.0	NNW.	W.	W.	213.1	79.0	82.0	78.0	79.7	979	1040	933	984	96	84	91	90	...	0	0	6	b.	b.	P, c.				
23	797	821	804	807	81.0	84.0	80.0	80.0	88.0	75.0	13.0	159.0	71.0	71.0	4.0	N.	W.	W.	197.7	79.0	80.0	78.0	79.0	966	977	933	956	91	83	91	83	...	6	4	6	P, c.	Cs, b.	P, c.				
24	786	801	807	798	82.0	87.0	82.0	81.7	88.0	76.0	12.0	160.0	72.0	72.0	4.0	N.	W.	W.	186.8	80.0	82.0	79.0	80.3	998	1027	979	1001	91	80	96	89	...	4	0	6	Cs, b.	b.	P, c.				
25	797	811	809	805	80.0	85.0	79.0	82.2	87.0	75.0	12.0	157.0	70.0	70.0	5.0	N.	W.	SSW.	157.2	78.0	80.0	77.0	78.3	933	958	902	931	91	79	91	87	...	0	0	4	b.	b.	Cs, b.				
26	796	799	792	795	79.0	83.0	80.0	79.5	88.0	76.0	12.0	160.0	72.0	71.0	5.0	SW.	SW.	W.	223.7	77.0	80.0	77.0	78.3	947	985	837	939	95	87	87	89	...	0	4	6	b.	Cs, b.	P, c.				
27	804	814	797	805	81.0	86.0	79.0	82.7	87.0	75.0	12.0	159.0	72.0	70.0	5.0	N.	SW.	W.	197.0	77.0	82.0	78.0	79.0	875	1040	947	954	83	84	95	87	...	0	0	4	b.	b.	Cs, b.				
28	794	809	791	799	82.0	86.0	79.0	80.7	88.0	76.0	12.0	160.0	72.0	71.0	5.0	N.	SW.	W.	172.3	79.0	82.0	78.0	79.7	952	1040	947	979	87	84	95	88	...	4	0	6	Cs, b.	b.	P, c.				
29	792	809	801	800	82.0	85.0	80.0	80.5	88.0	75.0	13.0	158.0	70.0	72.0	3.0	W.	NW.	N.	217.5	78.0	80.0	78.0	78.7	952	958	933	947	87	79	91	85	...	0	0	6	b.	b.	P, c.				
30	802	819	792	804	81.0	86.0	79.0	80.2	87.0	75.0	12.0	160.0	73.0	70.0	5.0	W.	W.	E.	114.4	78.0	82.0	78.0	79.3	920	1040	947	967	87	84	95	88	.25	0	4	10	b.	Cs, b.	Pc, o, r.				
31																																										
Mean.	29.797	29.805	29.801	29.801	81.0	84.8	82.9	80.9	87.9	74.9	13.0	158.1	70.2	71.6	3.3				174.8	78.9	80.7	78.8	79.5	961																		

Highest Atmospheric Pressure 29.838 Inches.  
 Lowest Atmospheric Pressure 29.779 "  
 In the shade, { Highest Temperature 89.0° Fah.  
 { Lowest Temperature 74.0° "  
 Greatest Fall of Rain in 24 hours 2.30 Inches

\*The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

W. HOAD,  
 Colonial Surgeon.



METEOROLOGICAL RESULTS OF THE MALACCA HOSPITAL OBSERVATORY, FOR THE MONTH OF OCTOBER, 1890.  
 12° 14' N. Lat., 102° 14' E. Long. Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inch- es.	CLOUD 0 to 10			CLOUD & WEATHER INITIALS.				
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	29.930	29.957	29.925	29.937	80.0	86.0	80.0	82.0	88.0	75.0	13.0	159.0	71.0	71.0	4.0	N.	W.	W.	195.3	78.0	80.0	78.0	78.6	.933	.944	.933	.936	91	76	91	86	...	6	4	6	P. c.	Cs. b.	P. c.	
2	.935	.965	.927	.942	80.0	86.0	80.0	82.0	89.0	76.0	13.0	160.0	71.0	72.0	4.0	N.	W.	W.	186.4	77.0	80.0	78.0	78.3	.889	.944	.979	.922	87	76	91	84	...	4	0	6	Cs. b.	b.	P. c.	
3	.940	.975	.937	.944	82.0	85.0	80.0	82.3	88.0	76.0	12.0	160.0	72.0	70.0	6.0	N.	W.	W.	232.5	78.0	80.0	79.0	79.0	.906	.958	.933	.947	83	79	98	86	...	4	4	6	Cs. b.	Cs. b.	P. c.	
4	.927	.960	.937	.941	80.0	86.0	80.0	82.0	88.0	75.0	13.0	157.0	69.0	72.0	3.0	N.	W.	W.	200.1	79.0	82.0	78.0	79.6	.979	1.040	.979	.984	96	84	91	90	...	0	0	6	b.	b.	P. c.	
5	.824	.813	.820	.819	80.0	85.0	80.0	81.6	88.0	76.0	12.0	159.0	71.0	71.0	5.0	N.	W.	W.	152.8	78.0	80.0	79.0	79.0	.933	.958	.920	.956	91	78	69	88	...	0	4	4	b.	Cs. b.	Cs. b.	
6	.802	.775	.798	.791	79.0	85.0	81.0	81.6	89.0	76.0	13.0	160.0	71.0	73.0	3.0	N.	W.	W.	178.4	77.0	80.0	78.0	78.3	.902	.958	.933	.926	91	79	87	85	...	0	0	6	b.	b.	P. c.	
7	.784	.797	.799	.793	83.0	86.0	80.0	83.0	88.0	75.0	13.0	159.0	71.0	71.0	4.0	N.	W.	W.	170.7	80.0	82.0	78.0	80.0	.985	1.040	.979	.986	87	84	91	87	...	0	0	6	b.	b.	P. c.	
8	.788	.822	.915	.841	80.0	85.0	80.0	81.6	87.0	76.0	11.0	154.0	67.0	72.0	4.0	N.	W.	W.	190.0	78.0	82.0	79.0	79.6	.933	1.054	.933	.988	91	87	96	91	.50	4	0	10	Cs. l.	P. c.	Pc. o. r.	
9	.879	.781	.809	.823	80.0	84.0	80.0	81.3	88.0	75.0	13.0	153.0	65.0	72.0	3.0	W.	W.	W.	198.5	79.0	80.0	78.0	79.0	.979	.971	.902	.961	96	83	91	90	...	4	4	6	Cs. b.	Cs. b.	P. c.	
10	.783	.779	.802	.790	79.0	85.0	79.0	81.0	87.0	76.0	11.0	152.0	65.0	70.0	6.0	W.	W.	W.	161.9	78.0	81.0	77.0	78.6	.947	1.005	.933	.951	95	88	91	89	...	0	0	6	b.	b.	P. c.	
11	.894	.785	.907	.862	80.0	85.0	80.0	81.6	88.0	76.0	11.0	159.0	71.0	73.0	3.0	W.	W.	W.	158.0	79.0	82.0	78.0	79.6	.979	1.054	.902	.788	96	87	91	91	.21	4	0	10	Cs. b.	b.	Pc. o. r.	
12	.876	.804	.822	.834	80.0	87.0	79.0	82.0	87.0	75.0	12.0	155.0	68.0	70.0	5.0	W.	W.	W.	193.7	78.0	81.0	77.0	78.6	.933	.978	.979	.937	91	76	91	86	...	10	6	6	Pc. o. r.	P. c.	P. c.	
13	.903	.848	.902	.884	80.0	85.0	80.0	81.6	88.0	75.0	13.0	158.0	70.0	70.0	5.0	W.	W.	W.	182.4	78.0	80.0	79.0	79.3	.933	.958	.902	.956	91	79	96	88	...	0	0	6	b.	b.	P. c.	
14	.844	.813	.883	.846	79.0	85.0	79.0	81.0	87.0	74.0	13.0	156.0	69.0	71.0	3.0	W.	W.	W.	189.3	78.0	83.0	77.0	79.3	.947	1.103	.947	.987	95	19	91	92	...	0	4	6	b.	Cs. b.	P. c.	
15	.862	.743	.819	.808	80.0	85.0	79.0	81.3	87.0	75.0	12.0	157.0	70.0	71.0	4.0	W.	W.	W.	268.4	78.0	82.0	78.0	79.3	.933	1.051	.933	.978	91	87	95	91	...	4	4	6	P. c.	Cs. b.	P. c.	
16	.892	.784	.916	.864	81.0	85.0	80.0	82.0	86.0	75.0	11.0	156.0	70.0	70.0	5.0	W.	W.	W.	198.8	79.0	81.0	78.0	79.3	.946	1.005	.947	.968	91	83	91	88	.22	0	6	10	b.	P. c.	Pc. o. r.	
17	.946	.824	.845	.871	81.0	85.0	79.0	81.6	88.0	75.0	13.0	153.0	65.0	72.0	3.0	W.	W.	W.	175.5	79.0	82.0	78.0	79.6	.966	1.054	.920	.987	91	87	95	91	.18	6	4	10	P. c.	Cs. b.	Pc. o. r.	
18	.903	.848	.902	.884	82.0	82.0	81.0	81.6	88.0	74.0	14.0	179.0	71.0	70.0	4.0	W.	W.	W.	170.3	78.0	80.0	78.0	78.6	.906	.908	1.032	.941	88	91	87	87	1.40	0	0	1	P. c.	P. c.	Pc. o. r.	
19	.792	.789	.814	.791	83.0	86.0	83.0	84.0	89.0	76.0	13.0	162.0	73.0	72.0	4.0	N.	W.	N.	160.0	80.0	82.0	81.0	81.0	.985	1.040	.985	1.019	87	81	91	87	...	6	4	6	P. c.	Cs. b.	P. c.	
20	.799	.799	.812	.803	81.0	84.0	83.0	82.6	88.0	74.0	14.0	175.8	67.0	73.0	1.0	W.	W.	N.	152.8	79.0	82.0	80.0	80.3	.966	1.067	.985	1.006	91	91	87	89	1.31	6	6	10	P. c.	P. c.	Pc. o. r.	
21	.794	.804	.787	.793	85.0	85.0	83.0	84.3	87.0	74.0	13.0	161.0	74.0	72.0	2.0	N.	WSW	N.	160.7	80.0	82.0	80.0	80.0	.885	1.054	.933	1.008	87	87	87	87	...	10	4	6	Pc. o. r.	Cs. b.	P. c.	
22	.806	.785	.779	.791	81.0	85.0	80.0	82.0	88.0	75.0	13.0	152.0	64.0	70.0	5.0	N.	WSW	N.	166.4	80.0	83.0	78.0	80.3	1.012	1.103	.979	1.016	96	91	91	92	.90	4	4	6	Cs. b.	Cs. b.	Pc. o. r.	
23	.792	.789	.819	.800	80.0	85.0	80.0	81.6	89.0	76.0	13.0	155.0	66.0	72.0	4.0	N.	S.	N.	171.7	78.0	80.0	79.0	79.6	.933	.958	.998	.956	91	79	96	88	...	4	0	6	Cs. b.	b.	P. c.	
24	.810	.794	.792	.798	81.0	83.0	82.0	82.0	88.0	75.0	13.0	159.0	71.0	73.0	2.0	N.	W.	W.	152.6	78.0	80.0	80.0	79.3	.920	.985	.933	.967	87	87	91	88	.15	4	4	10	Cs. b.	Cs. b.	Pc. o. r.	
25	.789	.811	.792	.800	81.0	85.0	80.0	82.0	86.0	74.0	12.0	159.0	73.0	71.0	3.0	N.	W.	E.	178.4	78.0	80.0	78.0	78.6	.920	.958	.916	.937	87	79	91	85	.12	4	6	1	Cs. b.	P. c.	Pc. o. r.	
26	.800	.801	.792	.797	80.0	80.0	78.0	79.6	88.0	75.0	13.0	158.0	70.0	72.0	3.0	N.	W.	E.	172.8	79.0	79.0	77.0	78.3	.979	.979	.966	.988	96	96	95	95	.50	4	6	10	Cs. b.	P. c.	Pc. o. r.	
27	.804	.789	.791	.794	83.0	85.0	81.0	83.0	88.0	75.0	13.0	160.0	72.0	73.0	2.0	N.	SW	W.	100.4	80.0	81.0	79.0	80.0	.985	1.005	1.005	.985	87	83	91	87	...	6	4	10	P. c.	Cs. b.	Pc. o. r.	
28	.802	.794	.809	.801	84.0	82.0	85.0	83.6	88.0	74.0	14.0	152.0	64.0	70.0	4.0	N.	SW	W.	159.3	81.0	79.0	81.0	80.0	1.019	.952	.797	.992	87	83	83	85	1.50	6	10	10	P. c.	Pc. o. r.	Pc. o. r.	
29	.792	.789	.819	.800	80.0	85.0	80.0	81.6	88.0	76.0	12.0	155.0	67.0	72.0	4.0	N.	NW	N.	148.4	78.0	80.0	79.0	79.0	.933	.958	.933	.956	91	79	96	88	.70	6	10	6	P. c.	Pc. o. r.	P. c.	
30	.856	.789	.779	.808	81.0	85.0	80.0	82.0	88.0	75.0																													

Highest Atmospheric Pressure 29.975 Inches  
 Lowest Atmospheric Pressure 29.743 ..  
 Highest Temperature 89.° Fah.  
 Lowest Temperature 74.° ..  
 Greatest Fall of Rain in 24 hours 1.50 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H., 15 H., 21 H., and Minimum Temperature.

W. HOAD,  
Colonial Surgeon.



# METEOROLOGICAL RESULTS OF THE MALACCA OBSERVATORY, FOR THE MONTH OF NOVEMBER, 1890.

12° 14' N. Lat., 102° 14' E. Long.

Height of Bar Cistern above Sea Level, 12 ft.

DATE.	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			Velo- city.  Total Miles.	TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIV HUMI- DITY.				RAIN INCH- ES.	CLOUD 0 TO 10			CLOUD & WEATHER INITIALS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	DIRECTION.				9 H.	15 H.	21 H.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.		15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Ins.	Ins.	Ins.	Ins.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.	°F.

Highest Atmospheric Pressure 29.940 Inches.  
 Lowest Atmospheric Pressure 29.779 "  
 In the shade, { Highest Temperature 90.2 Fah.  
 { Lowest Temperature 70.2 "  
 Greatest Fall of Rain in 24 hours .85 Inches

\*The daily Mean Temperature of air is obtained  
 from the results of the observations at 9 H, 15 H, 21  
 H, and Minimum Temperature.

W. HOAD,  
 Colonial Surgeon.



METEOROLOGICAL RESULTS OF THE MALACCA HOSPITAL OBSERVATORY, FOR THE MONTH OF DECEMBER, 1890.  
12° 14' N. Lat., 102° 14' E. Long.

Height of Bar Cistern above Sea Level, 12 ft.

DATE	BAROMETER—REDUCED TO 32°				TEMPERATURE OF AIR.							TEMPERATURE OF RADIATION.				WIND.			TEMPERATURE OF EVAPORATION.				COMPUTED VAPOUR TENSION.				RELATIVE HUMIDITY.				RAIN. Inches.	CLOUD 9 to 10.			CLOUD & WEATHER INITIALS.				
	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	Maximum.	Minimum.	Range.	Sun.	Difference Sun and Shade.	Grass.	Difference Shade and Radiation.	Direction.			Total Miles.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.	Mean.	9 H.	15 H.	21 H.		Mean.	9 H.	15 H.	21 H.	Mean.	Before 9 A.M.	9 A.M. to 3 P.M.	After 3 P.M.
																9 H.	15 H.	21 H.																					
1	Ins. 29.935	Ins. 29.967	Ins. 29.940	Ins. 29.947	°F. 85.0	°F. 80.2	°F. 80.4	°F. 81.6	°F. 85.0	°F. 70.6	°F. 14.4	°F. 140.4	°F. 55.4	°F. 70.2	°F. 0.4	NE.	E.	E.	162.6	°F. 80.0	°F. 75.8	°F. 74.4	°F. 76.9	Ins. 958	Ins. 947	Ins. 960	Ins. 958	% 81	% 95	% 74	% 83	...	6	10	6	P. c.	Pc, o, r.	P. c.	
2	935	965	950	950	80.6	85.0	80.4	82.0	85.2	70.4	14.8	145.6	60.4	70.0	0.4	NE.	E.	E.	160.4	75.4	80.0	74.2	76.5	802	953	760	773	78	79	74	77	.45	6	10	6	P. c.	Pc, o, r.	P. c.	
3	935	955	927	939	84.0	85.2	84.0	84.4	85.0	70.6	14.4	145.4	60.4	70.4	0.2	NE.	W.	E.	159.7	80.0	80.0	80.0	80.0	958	971	971	966	79	83	83	81	...	4	0	10	Cs, b.	b.	Pc, o, r.	
4	960	967	925	950	84.0	82.0	82.2	82.7	89.0	70.2	18.8	154.0	65.0	70.0	0.2	NE.	W.	E.	161.8	80.0	78.0	78.0	78.3	971	906	906	927	83	83	83	83	...	0	0	6	b.	b.	P. c.	
5	935	947	930	937	85.0	84.0	84.0	84.3	87.0	70.0	17.0	160.0	73.0	69.0	1.0	NE.	W.	E.	158.4	80.0	80.0	80.0	80.0	958	971	971	966	79	83	83	81	.15	4	10	10	Cs, l.	Pc, o, r.	Pc, o, r.	
6	789	786	787	787	80.0	84.0	84.0	81.0	86.0	72.0	14.0	154.0	68.0	71.0	1.0	NE.	W.	E.	159.0	77.0	81.0	80.0	79.3	958	971	971	966	79	83	83	81	...	0	0	6	b.	b.	P. c.	
7	804	789	791	794	85.0	82.4	80.0	82.4	83.0	71.0	18.0	130.0	42.0	70.0	1.0	NE.	NE.	NNE.	160.8	80.0	80.2	78.0	79.4	889	1019	971	959	87	87	83	83	...	0	0	6	b.	b.	P. c.	
8	802	794	809	801	80.4	80.0	80.0	80.1	80.4	70.0	10.4	160.0	79.6	69.0	1.0	NNE.	NE.	NNE.	168.6	75.3	77.0	79.0	77.1	802	889	933	963	79	91	91	80	...	6	10	0	P. c.	Pc, o, r.	b.	
9	935	967	940	947	80.3	81.0	80.0	80.4	90.0	70.0	20.0	149.0	59.0	69.0	1.0	NNE.	S.	NNE.	170.1	75.4	77.0	76.0	76.1	816	875	845	845	82	83	82	82	...	0	0	6	b.	b.	P. c.	
10	935	965	980	960	80.0	80.4	80.0	80.1	85.4	70.1	15.3	140.0	54.6	70.0	0.1	NNE.	NE.	E.	170.3	75.0	75.0	75.0	75.0	802	802	802	802	78	78	78	78	1.50	6	10	10	P. c.	Pc, o, r.	Pc, o, r.	
11	787	792	789	792	80.0	83.0	80.2	81.0	85.2	70.4	14.8	155.0	69.8	70.0	0.4	NNE.	NE.	E.	158.4	75.4	79.0	76.0	76.8	802	938	845	861	78	83	82	81	...	0	0	6	b.	b.	P. c.	
12	792	789	814	798	80.0	80.2	80.0	80.0	85.1	71.0	14.1	145.0	59.9	70.0	1.0	NNE.	NE.	E.	157.8	77.0	75.4	74.0	75.4	889	802	760	817	87	78	74	79	...	0	4	6	b.	Cs, b.	P. c.	
13	799	799	812	803	80.0	83.0	82.0	81.6	85.0	71.0	14.0	152.0	67.0	70.0	1.0	NNE.	W.	E.	142.0	78.0	79.0	78.0	78.3	933	938	906	925	91	83	83	85	.70	4	6	10	Cs, b.	P. c.	Pc, o, r.	
14	794	804	787	795	84.0	85.0	82.0	83.6	83.0	71.0	17.0	156.0	68.0	70.0	1.0	NNE.	W.	E.	162.0	75.0	77.0	80.0	77.3	748	821	998	855	64	68	91	74	...	6	6	6	P. c.	P. c.	P. c.	
15	915	925	920	920	80.0	86.0	80.0	82.0	87.3	70.2	17.1	153.0	65.7	70.0	0.2	NNE.	NE.	E.	150.0	75.0	78.0	75.0	76.0	802	852	832	818	78	68	78	74	...	6	0	6	P. c.	b.	P. c.	
16	900	901	912	904	80.2	85.0	82.0	82.4	85.2	70.0	15.2	155.0	69.8	69.0	1.0	NNE.	NE.	E.	148.7	75.0	77.0	74.0	75.3	802	821	733	785	78	68	67	71	...	0	0	6	b.	b.	P. c.	
17	917	920	909	915	80.0	84.0	82.0	82.0	85.4	69.0	16.4	160.0	74.6	67.0	2.0	NNE.	NE.	E.	144.6	75.2	76.0	74.0	75.4	802	791	776	789	78	68	71	72	...	4	0	6	Cs, b.	b.	b.	
18	899	897	897	897	80.2	84.0	80.0	81.4	85.0	69.0	16.0	159.0	74.0	68.0	1.0	NNE.	NE.	E.	140.2	75.0	76.0	75.0	75.3	802	791	802	798	78	68	78	74	...	0	0	6	b.	b.	P. c.	
19	901	900	898	899	80.0	84.0	80.0	81.3	90.0	66.0	24.0	160.0	70.0	65.0	1.0	NNE.	W.	E.	142.6	75.0	78.0	75.0	76.0	802	879	802	827	78	75	78	77	...	0	0	6	b.	b.	P. c.	
20	896	894	892	894	84.0	84.0	80.0	82.6	87.0	67.0	20.0	160.0	73.0	66.0	1.0	NNE.	W.	E.	148.7	76.0	75.0	75.0	75.3	791	748	802	780	68	64	78	70	...	0	0	6	b.	b.	P. c.	
21	899	900	897	898	85.0	84.0	82.0	83.6	90.0	69.0	21.0	155.0	65.0	65.0	4.0	NNE.	W.	E.	150.3	84.0	80.0	80.0	81.3	154	971	998	1041	96	83	91	90	...	0	0	0	b.	b.	P. c.	
22	925	912	917	918	80.0	86.0	82.0	82.6	88.0	65.4	22.6	160.0	72.0	65.0	0.4	NNE.	W.	E.	151.9	75.0	82.0	80.0	79.0	802	1040	998	946	78	84	91	84	...	0	0	0	b.	b.	b.	
23	925	920	901	915	85.0	87.0	82.0	84.6	90.0	70.0	20.0	170.0	80.0	69.0	1.0	NNE.	W.	E.	147.7	77.0	80.0	80.0	79.0	821	931	998	916	68	72	91	77	...	0	0	0	b.	b.	b.	
24	917	914	900	910	85.0	86.0	82.0	84.3	90.0	70.0	20.0	164.0	74.0	69.0	1.0	NNE.	W.	E.	169.5	84.0	85.0	80.0	83.0	154	1192	998	1114	96	98	91	95	...	0	0	0	b.	b.	b.	
25	916	920	915	917	85.0	87.0	84.0	85.3	90.0	76.0	14.0	162.0	72.0	71.0	5.0	NNE.	W.	E.	165.0	83.0	79.0	80.0	80.6	1103	844	971	986	91	69	83	81	...	0	0	0	b.	b.	b.	
26	920	919	914	917	85.0	84.0	82.0	83.6	90.0	76.0	14.0	160.0	70.0	70.0	6.0	NNE.	W.	E.	178.0	78.0	78.0	80.0	78.6	866	879	998	914	72	75	91	79	...	0	0	0	b.	b.	b.	
27	899	901	893	899	85.0	85.0	84.0	84.6	90.0	71.0	19.0	164.0	74.0	70.0	1.0	NNE.	W.	E.	172.9	80.0	82.0	81.0	81.0	958	1054	1019	1007	79	87	87	84	...	0	0	0	b.	b.	b.	
28	902	912	900	904	86.0	87.0	84.0	85.6	90.0	72.0	18.0	163.0	73.0	71.0	1.0	NNE.	W.	E.	160.1	78.0	80.0	80.0	79.3	852	931	971	918	68	72	83	74	...	0	0	0	b.	b.	b.	
29	912	901	899	904	85.0	84.0	83.0	84.0	90.0	70.0	20.0	163.0	73.0	69.0	1.0	NE.	SW.	E.	158.7	78.0	80.0	80.0	79.3	866	971	985	940	72	83	87	80	...	0	0	0	b.	b.	b.	
30	902	910	897	903	85.0	87.0	83.0	81.6	90.0	71.0	19.0	164.0	74.0	70.0	1.0	NE.	SW.	E.	159.9	77.0</																			

Highest Atmospheric Pressure 29.980 Inches  
 Lowest Atmospheric Pressure 29.786 "  
 In the Shade { Highest Temperature 90.0° Fah.  
 Lowest Temperature 65.0° "  
 Greatest Fall of Rain in 24 hours 1.50 Inches

\* The daily Mean Temperature of air is obtained from the results of the observations at 9 H, 15 H, 21 H, and Minimum Temperature.

W. HOAD,  
Colonial Surgeon.



	SINGAPORE.										The Din- dings.	MALACCA.																	PENANG.				PROVINCE WELL ESLEY.											
Date.	P. and O. Co's Depôt, New Harbour.	General Hospital, Sepoy Lines.	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	Pankor Hospital.	Bruas.	Town.	Tranquerah.	Banda Illir.	Durian Daun.	Kandang.	Batang Tiga.	Bukit Bruang.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambei.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kwala Linggi.	Bukit Sabukur.	Merlemau Forest Re- serve.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Leper Asylum, Pulau Jerajak.		
1	.12	..	..	..	..	..	..	..	..	.10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.05	..	..	..	.58	..	3.20	..	..	..	..	..	..	..	..	..	..	..	..	
2	.34	.65	.93	1.45	.06	.58	.67	.54	.58	..	..	..	.20	..	..	..	..	.10	..	..	..	..	..	..	..	..	..	.58	.16	..	..	.75	..	..	.35	..	..	..	..	..	..	..	..	
3	.96	.50	.48	.58	.44	.64	.50	.65	.10	.84	.15	.03	..	.20	..	.22	..	.09	.03	.30	..	..	..	..	.95	..	..	..	..	1.05	5.00	.21	.10	..	..	.03	..	..	..	..	..	..	..	..
4	.40	1.55	1.55	1.25	.64	.75	.32	.36	2.76	.64	.36	..	..	..	..	.13	..	.02	.07	..	..	..	..	..	.95	..	..	.40	..	1.05	5.00	.21	.10	..	..	..	..	..	..	..	..	..	..	..
5	..	.77	1.10	1.18	.82	.86	.92	.72	2.44	.77	..	..	..	..	..	..	..	..	.06	..	.40	..	..	1.00	1.10	.30	1.02	..	..	1.60	.40	.09	..	..	..	..	..	..	1.00	1.40	.04	1.52	.15	
6	.66	..	..	.09	..	.86	.04	..	.05	.88	..	.20	..	..	..	..	..	..	..	..	..	..	..	1.00	1.10	.30	1.02	..	..	..	..	.10	..	1.20	1.17	2.00	..	..	1.00	1.40	..	..	..	..
7	..	..	..	..	..	.13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1.00	1.00	..	..	.20	..	..	..	..	1.10	..	..	1.43	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	.09	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	.49	1.50	.05	.20	..	.99	..	1.21	2.15	..	..	.20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.60	1.00	.37	.10	..	1.27	.60	..	.07	.98	..		
10	..	..	..	..	1.30	..	..	..	1.94	.98	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.05	..	.05	.90	.40	..	.40	.54	.14		
11	..	..	.05	..	..	.05	.05	.05	.86	..	1.55	.45	..	..	..	..	..	..	..	..	..	..	..	.50	..	..	..	..	..	..	..	..	.28	1.15	.50	..	..	1.80	..	.35	.57	.18		
12	1.51	1.95	1.53	2.03	1.80	1.82	1.20	2.38	1.92	..	.40	2.58	.30	.30	..	.38	..	.48	..	.40	..	..	..	..	.80	1.30	..	.15	..	.70	..	..	..	.71	.70	.62	1.78	.60	1.60	.65	1.73	2.05		
13	.52	1.55	.70	.50	.67	.70	.39	.39	1.04																																			

T. C. MUGLISTON,  
*Acting Principal Civil Medical Officer, Straits Settlements.*

T. C. MUGLISTON,

*Acting Principal Civil Medical Officer, Straits Settlements.*



# REGISTER OF RAINFALL, FOR THE MONTH OF FEBRUARY, 1890.

## STRAITS SETTLEMENTS.

STRAITS SETTLEMENTS.																																																	
Date.	SINGAPORE.										The Dindings.			MALACCA.																				PENANG.				PROVINCE WELLESLEY.											
	P. and O. Co's Depôt, New Harbour.	General Hospital, Sepoy Lines.	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Bukit Bruang.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambai.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Merlemau Forest Re- serve.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Leper Asylum, Pulau Jerejak.						
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.				
1	...	...	...	...	...	...	...	...	...	...	.08	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
2	...	...	...	...	...	...	...	...	...	...	...	...	.30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
4	.82	.20	...	...	...	...	.32	.83	.27	.27	.15	...	...	.20	.50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
5	.26	...	...	...	...	...	...	...	.11	.15	.49	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
6	.05	...	.07	.08	.03	.02	.08	...	...	...	...	.16	.20	...	...	1.60	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
7	...	1.25	1.24	1.43	...	2.08	.10	.86	.29	...	.27	.12	...	...	...	...	...	.90	...	...	...	.55	.30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
8	1.10	...	...	...	1.96	...	.10	.09	...	.90	.01	.02	...	...	.70	...	...	...	.15	...	...	...	.10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
9	1.06	.50	...	.42	...	.47	2.17	1.20	.58	.05	.02	...	...	.50	...	...	...	.70	.45	.80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
10	...	...	...	...	.84	.01	...	.05	.88	.01	.22	...	...	...	...	.20	...	...	.10	1.20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
11	.22	.10	.10	.37	...	.04	.78	.10	.06	...	...	...	...	.10	...	...	.55	...	1.30	.16	1.10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
12	.48	.30	2.22	2.13	1.53	1.04	...	1.15	.82	.02	1.50	1.10	2.95	.03	...	...	2.15	...	1.80	.60	1.15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
13	...	...	...	...	1.21	.01	...	...	.23	1.51	.11	.04	1.20	...	...	1.80	...	1.73	...	.50	...	1.10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
14	.50	...	.10	...	...	.54	...	.20	.52	...	1.25	1.78	.50	1.10	...	...	.60	...	.30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
15	.70	1.80	1.02	1.00	...	1.66	.87	.74	.14	.43	.01	...	.30	...	...	...	...	...	.40	.70	.80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
16	...	...	...	...	.60	...	.05	...	.98	1.18	.10	...	...	...	...	.70	...	...	...	.10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
17	.76	.65	2.00	1.86	.22	2.22	.07	.98	.74	...	.01	.30	...	...	...	...	...	.57	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
18	.77	.95	1.34	1.24	1.38	1.86	.60	2.83	.76	.99	.02	...	...	.10	.75	...	.31	...	.75	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
19	.50	.40	.85	1.03	3.05	.75	.40	.70	2.21	2.54	.10	.32	.33	...	...	.20	...	.87	...	.65	.35	.20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
20	.70	...	.43	.49	.30	.54	.29	.12	.29	...	.55	...	.08	.23	.80	...	.60	...	.35	.16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
21	.54	.30	...	...	.05	...	...	...	...	.15	.47	1.35	.05	...	...	.30	...	.86	...	1.15	...	.60	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
22	.20	...	...	...	...	...	...	...	...	...	...	...	.85	...	...	.22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
23	...	1.10	.93	1.48	.27	.53	...	.43	.27	...	...	.31	.65	...	...	...	...	.47	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
24	...	...	.02	.08	1.45	...	...	.40	...	.28	...	.44	...	...	.40	...	.25	...	1.45	1.94	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
25	1.00	...	...	...	.11	...	...	...	.02	.18	.49	...	.10	...	...	.70	...	...	...	.60	.60	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.75	...	.10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
27	.25	1.50	2.13	1.03	...	1.56	.23	.57	.15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
28	...	...	...	.02	1.03	...	...	...	...	.88	...	...	...	...	...	...	.75	.37	.35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total inches.	9.91	9.05	12.47	12.66	14.03	13.70	6.47	10.64	8.49	10.84	4.94	6.24	4.71	5.75	2.88	5.72	5.51	5.77	7.70	10.58	7.10	2.65	3.10	9.40	2.03	3.30	4.75	0.55	4.50	6.15	4.55	4.80	4.06	7.70	9.64	8.90	11.47	8.74	8.50	4.20	7.23	5.94	5.73						
Mean inches.	10.82										5.30			5.17																				9.69				6.32											

KANDANG KERBAU HOSPITAL OBSERVATORY,  
Singapore, 1st March, 1890.

T. C. MUGLISTON,  
Acting Principal Civil Medical Officer, Straits Settlements.



# REGISTER OF RAINFALL, FOR THE MONTH OF MARCH, 1890.

## STRAITS SETTLEMENTS.

STRAITS SETTLEMENTS.																																														
Date.	SINGAPORE.										The Dindings.			MALACCA.																			PENANG.				PROVINCE WELLESLEY.									
	P. and O. Co's Depôt, New Harbour.	General Hospital, Sepoy Lines.	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Bukit Bruang.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambai.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Merlemau Forest Re- serve.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Leper Asylum, Pulau Jerejak.			
1	.15	...	...	...	...	...	...	...	.62	...	.03	...	.23	...	...	.20	...	1.10	...	1.00	...	.20	...	...	...	.50	...	1.00	...	...	2.53	.57	.83	.75	.80	...	.24	...	...	...	...	...	...	...	...	
2	...	...	...	...	...	.15	...	.38	.19	...	.68	.25	...	...	...	...	...	...	.25	...	.90	...	...	...	.10	...	...	...	...	...	...	...	.07	...	...	.62	...	.34	.40	.140	.24	.18	.42			
3	.99	...	...	...	...	...	...	...	.41	.60	.07	.47	.50	...	.70	...	...	...	1.25	.10	...	...	...	...	...	...	...	...	.04	.50	...	...	...	...	.17	.40	.51	.18	...	.60	.100	.40	.12			
4	.65	.50	.62	.64	...	.40	.30	.30	.39	...	.04	...	.92	...	...	...	.72	...	.50	...	.85	...	...	...	...	...	...	...	...	...	...	.45	...	...	...	.03	.49	1.26	.20	...	.76	2.60	.16			
5	.34	.70	.09	.11	.39	.11	.29	.15	...	.31	.12	.13	.19	...	...	...	...	.40	...	.10	...	.20	.41	...	...	...	...	...	...	.50	.08	...	.43	1.25	...	.41	...	.01	...	...	.18	.03	.14			
6	.15	.30	.18	.18	.20	.18	.10	.23	.32	.15	.14	.55	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.05	...	...	...	...	...	...	...	...	...			
7	...	.10	.18	.10	.18	.06	.05	.03	.13	.20	...	...	...	...	...	...	...	1.75	.05	...	...	...	...	...	...	...	.20	1.20	...	...	...	.27	...	...	...	.11	...	...	...	...	...	...	...			
8	.60	.42	.28	.33	.03	.89	.50	.38	.28	.04	.07	...	...	1.10	.60	...	1.35	.60	.85	...	1.00	.20	.31	...	.24	.90	...	1.00	.40	1.50	.18	1.10	...	...	...	...	...	...	...	...	...	...	...			
9	.53	...	...	.05	.25	.04	.50	.04	.16	.38	2.18	.86	...	.35	...	1.10	...	.25	.50	1.00	.95	.45	...	...	.20	.20	...	1.02	1.60	...	.13	1.00	.65	.75	.05	.05	...	...	...	...	...	...	.71	...		
10	...	.10	.52	.03	.05	.05	...	.65	.22	.05	...	...	.40	...	...	.30	.45	1.00	.20	.72	.30	...	.20	...	1.10	.70	...	...	...	...	...	...	1.04	.18	...	...	.05	...	...	...	...	...	...	...		
11	.07	...	...	...	.05	...	...	...	...	.40	...	...	...	...	...	.30	...	.25	.78	.50	.11	...	...	...	.13	.65	1.20	...	...	...	...	.33	.67	1.15	...	...	...	...	...	...	...	.12	.10	...		
12	...	...	...	...	...	...	...	...	...	.57	...	...	...	...	...	...	...	2.30	...	.10	.60	...	...	...	...	.20	.30	...	...	...	...	.58	...	.08	.67	...	...	...	...	...	...	...	...	...		
13	...	.20	...	...	...	...	...	...	...	...	...	.17	...	...	...	...	...	...	...	...	.50	...	2.30	...	...	.15	...	1.10	...	.70	...	...	...	.50	...	.05	...	.25	.80	.60	...	.10	...			
14	...	...	...	.04	...	.01	...	...	...	...	...	...	...	...	...	...	...	...	...	.10	...	...	...	...	...	.40	...	.45	...	...	...	...	...	...	...	.11	...	...	...	...	...	...	...			
15	...	...	...	...	...	...	...	.01	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
18	.11	...	.04	.28	...	.02	.37	.25	...	...	...	...	...	2.30	.70	...	.66	...	...	...	...	.07	...	...	...	.50	...	.30	...	.50	.30	.80	...	...	.17	...	...	.20	...	1.00	.15	.68				
19	.08	...	.56	...	.24	.08	.05	.43	.60	.30	1.92	1.40	.19	...	...	1.10	...	...	...	.35	.10	...	...	...	...	.10	...	...	...	...	...	...	.50	...	.07	.23	.05	...	...	...	...	.17	...			
20	...	...	...	...	.08	...	...	...	...	.26	.02	.15	1.42	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.09	...	...	...	...	...	...	...	...		
21	.19	.20	1.74	.83	...	.62	...	.47	.29	...	...	.75	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.50	...	.16	...	...	...	...	...	...	...	...		
22	1.53	2.40	2.46	1.61	.60	1.92	1.00	1.75	1.61	.46	...	...	.58	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.00	...	...	...	...	...	...	...	...	...	...		
23	2.27	1.50	1.05	1.37	2.18	1.09	.45	.66	.27	2.15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.10	...	...	.50	...	...	...	...	.06	...	...	...	...	...	...	...		
24	.27	.40	.96	1.05	3.95	.56	...	.21	.54	.85	.08	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.00	...	...	...	...	...	...	...	.05	...	...	...	...	...	...	...		
25	.05	...	...	...	.87	.01	...	.23	.43	.64	.45	.20	.85	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.30	.04	...	...	...	...	.56	...	...	...	.10	...	...	...	...	...	...		
26	...	...	...	...	...	.05	...	.36	.08	...	...	.30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.70	...	.24	1.20	...	...	...	...	...	...	...	...	...			
27	.21	...	.15	.10	...	.18	.20	.09	.18	.02	.18	...	.25	.25	.35	...	...	...	.19	...	...	.11	...	...	.45	...	...	...	...	1.40	...	...	...	...	...	...	...	...	...	...	...	...	...			
28	.25	...	.06	.78	.10	.02	...	...	.19	.22	...	...	...	...	...	...	...	...	...	.07	...	...	...	...	.30	1.40	...	.40	.50	.30	...	.30	.19	...	...	...	...	...	...	...	...	...	...			
29	...	...	1.00	.49	.68	.55	.30	.56	.38	.02	.04	.07	.10	...	...	...	...	...	...	...	...	...	...	...	...	...	1.30	.40	...	...	...	.36	.20	...	.78	...	.03	...	1.12	.80	...	.03	...			
30	.25	...	.02	.09	1.02	...	...	...	...	.44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.25	1.10	...	...	...	2.30	.19	...	...	.71	...	.03	.04	.05	.20	1.00	.10	...	.22			
31	...	...	...	...	.03	...	...	...	...	.09	.15	1.32	.10	...	...	...	...	...	...	...	...	...	...	...	...	...	1.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Total inches.	8.69	6.82	9.91	8.08	10.90	6.99	4.11	6.81	7.58	7.66	6.74	6.32	6.08	4.50	2.75	3.00	3.18	7.15	4.09	4.56	5.75	1.84	4.98	...	3.67	8.50	6.95	5.60	4.20	7.50	5.81	5.74	3.65	9.37	1.02	1.57	3.05	3.36	2.60	3.60	3.84	6.10	2.24			
Mean inches.	7.75										6.39			5.14																2.25				3.79												

KANDANG KERBAU HOSPITAL OBSERVATORY,  
Singapore, 1st April, 1890.

T. C. MUGLISTON,  
Acting Principal Civil Medical Officer, Straits Settlements.



STRAITS SETTLEMENTS.																																													
Date.	SINGAPORE.										The Dindings.			MALACCA.														PENANG.				PROVINCE WELLESLEY.													
	P. and O. Co's Depôt, New Harbour.	General Hospital, Sepoy Lines.	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Bukit Bruang.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambei.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Merlemau Forest Reserve.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Lepor Asylum, Pulau Jerejak.		
1	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	
2	...	...	...	...	...	...	...	...	...	...	.03	.07	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	.00	.58	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	.27	...	...	...	...	...	.30	.08	.04	...	.08	.09	...	1.10	...	...	.50	...	.20	...	...	.15	...	...	...	...	...	.03	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	.24	1.10	.19	.48	...	.41	.20	.50	.11	...	.00	...	...	...	...	1.70	...	...	...	...	.60	...	...	.19	...	...	...	...	1.50	...	...	...	.57	.50	...	.60	.40	.46	1.19	...	.80	.60	1.75	...	1.65
6	1.01	.60	.72	.40	.75	.82	.20	.87	.55	.39	...	...	...	...	...	...	...	...	...	...	...	...	...	.11	...	...	...	...	...	...	...	.45	...	...	...	...	...	...	...	...	...	...	...	...	
7	1.28	.60	2.11	2.78	.29	1.77	.17	2.71	1.44	1.26	...	...	...	...	.70	...	...	...	...	...	1.25	.10	.45	...	...	.25	1.20	...	...	.30	.40	.90	...	...	...	...	...	...	...	...	...	...	...	...	
8	1.27	.55	.78	1.03	.75	.70	.50	.73	1.72	2.87	...	...	...	...	...	...	...	.05	.83	...	...	...	...	.80	.20	.20	...	...	...	...	...	...	.48	.12	...	...	...	...	...	...	...	...	...	...	
9	1.03	...	.33	.67	.75	.24	.50	.20	.36	.25	.01	...	1.20	...	...	...	...	.08	.49	...	.65	...	...	.20	.58	...	2.10	...	...	...	...	...	.28	...	...	...	...	...	...	...	...	...	...	...	...
10	...	...	.06	.09	.45	.10	.23	.04	.18	.29	.26	.45	.78	.30	...	...	...	...	.20	.60	...	...	...	...	.20	.58	...	...	...	...	...	...	.42	.10	1.60	.07	.71	.55	.40	.13	.08	...	...	...	
11	...	.15	.73	2.07	.17	.15	...	.19	.20	.03	...	...	...	...	...	...	1.40	...	.22	...	.20	.25	.30	...	.62	...	.30	...	.20	.71	...	.07	.12	.16	.05	.72	...	.15	...	...	...	...	...	...	...
12	...	.03	.13	.05	2.52	.16	...	.64	.26	.23	...	.28	...	...	.03	.40	...	...	...	.10	...	...	...	...	.20	1.30	...	...	.50	...	1.20	...	.17	.25	...	.01	...	.60	...	...	...	...	...	...	...
13	.05	...	.06	.08	...	.09	.67	.11	...	...	.08	.32	1.20	...	...	...	...	...	.10	...	...	...	1.40	1.50	.90	...	...	...	...	...	.18	.50	...	.45	.28	.12	.03	.06	.25	1.20	.15	.52	...	...	

T. C. MUGLISTON,  
*Acting Principal Civil Medical Officer, Straits Settlements.*



# REGISTER OF RAINFALL, FOR THE MONTH OF MAY, 1890.

## STRAITS SETTLEMENTS.

Date.	SINGAPORE.										The Dindings			MALACCA.																												PENANG.				PROVINCE WELLESLEY.							
	P. and O. Co's Dep't, New Harbour.	General Hospital, Sepoy Lines.	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Bukit Bruang.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambei.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Merlemau Forest Re- serve.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Leper Asylum, Pulau Jerejak.										
1	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.							
2	...	.70	...	.04	1.12	...	.40	...	.11	1.06	...	...	1.56	...	...	...	...	...	...	.10	...	...	.30	...	.10	...	...	...	...	...	...	...	.12	...	...	1.35	1.35	3.32	...	...	...	...	...	...	...	...							
3	...	.70	.05	.07	...	.15	.50	.08	.24	...	1.60	3.79	...	.15	.15	...	...	...	.10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
4	.15	...	...	...	.12	...	...	.28	...	.15	.08	.10	...	...	...	.20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.04	...	...	.04	1.05	.40	...	...	...	...	...	...	...	.38						
5	...	...	.16	.18	...	.15	.09	...	.12	...	.75	.42	.10	.45	.50	...	...	...	.42	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
6	.52	...	.76	.26	.18	.67	.14	1.00	.15	...	...	...	...	...	...	.30	...	...	...	.03	...	.10	.90	...	...	...	...	...	...	...	1.10	...	...	1.80	.09	...	...	.07	...	.10	...	...	...	...	.08	.44							
7	.05	.55	.37	.37	.09	.32	.20	.87	...	1.02	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.26	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
8	.11	...	...	...	.10	.05	...	.36	...	.23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
11	.67	.07	.11	.12	...	...	...	...	.11	...	...	...	...	.25	.20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.04	...	.02	.64	.01	...	...	...	...	...	...	...	...	...	...				
12	.05	...	...	...	.12	.23	...	.09	...	.10	.93	...	1.95	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
13	...	...	.12	.37	...	.13	...	.32	...	.30	.05	...	...	...	...	...	...	...	...	...	.20	...	1.32	...	.10	...	...	...	...	...	...	...	...	...	...	.12	.06	.10	...	...	...	...	...	...	...	...	...	...					
14	...	...	.24	.45	.17	.33	...	.06	...	.09	.16	...	...	...	...	...	1.41	...	.07	...	...	...	.35	...	...	.50	...	...	...	...	...	...	...	...	.47	.45	.07	.14	1.10	1.00	1.42	4.00	.54										
15	...	...	...	...	.61	.05	.26	.30	...	.43	...	...	...	1.90	1.95	...	1.40	...	...	.70	.50	.40	...	...	.80	...	.40	...	.20	...	1.20	.14	2.30	.54	...	.22	1.00	...	...	...	...	...	...	...	...	...	...	...					
16	...	...	...	...	...	.18	...	...	...	...	.10	.07	.32	...	...	1.00	...	...	.85	...	...	...	...	...	...	...	.40	...	.03	...	...	...	...	.35	...	.13	.47	.77	1.06	.30	...	.55	.23	.47									
17	.169	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.75	.12	.18	.72	...	.20	1.40	.25	.18	.84									
18	...	...	...	.03	...	.20	...	...	.33	...	...	...	...	...	...	...	...	...	.10	.23	...	...	...	...	...	...	...	...	...	...	...	...	...	.50	1.12	.34	.41	2.00	...	.38	1.64	.75											
19	.09	.15	.04	...	.06	...	1.35	.20	...	.45	.01	.10	...	.12	.10	...	...	...	.80	.09	1.00	.40	.35	.50	.40	.70	...	...	...	...	...	...	.89	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
20	.05	...	...	...	...	...	...	...	...	...	.001	...	...	...	...	.20	...	...	...	.95	...	...	1.05	...	...	...	...	...	...	.50	...	...	...	.30	...	1.30	1.20	.01	.21	2.20	...	.10	.03	.24									
21	...	...	...	.05	.37	...	...	...	...	...	...	.20	.80	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
22	.37	.35	.44	.39	...	.34	...	...	.29	...	.031	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.04	...	1.50	...	.40	...	...	...	...	...	...	...					
23	...	...	...	...	.11	...	...	.15	...	.21	...	.94	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
24	...	...	...	...	.15	...	...	...	...	.06	...	3.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
25	...	...	...	.20	...	.04	.85	.14	.35	...	.95	.70	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.17	.22	.44	.80	.02	...	...	...	...	...	...	...	...	...				
26	...	...	...	...	.01	.01	...	...	...	.23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
27	.49	.07	.23	.48	...	.11	1.00	.16	...	...	...	...	.28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.05	.65	...	1.38	...	.20	...	...	...	...	...	...	...	...				
28	...	.23	.08	.22	.33	.04	...	.03	.07	.29	.02	...	...	.85	.84	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
29	1.01	...	...	.10	.03	...	.45	...	...	.04	...	...	...	...	...	.70	1.83	...	...	.10	.10	...	...	...	...	...	...	...	...	...	...	...	...	...	.81	2.10	...	1.41	.70	1.00	1.08	...	...	...	...	...	...	...	...				
30	1.12	2.05	.73	.35	.03	1.81	.50	1.79	...	.04	.92	.59	.80	...	...	...	...	...	...	...	...	.50	...	...	...	...	...	...	...	...	...	...	...	...	.48	.65	.68	1.12	.20	.30	.17	...	...	...	...	...	...	...	...				
31	...	...	.04	.05	3.20	...	...	.07	...	2.09	.38	.15	.10	...	...	...	...	1.15	...	.24	.50	...	...	...	2.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total inches.	6.37	4.87	3.37	3.73	6.80	4.91	5.60	4.72	2.94	6.58	5.41	7.11	8.91	3.72	3.74	2.40	4.64	1.15	3.99	2.44	4.20	2.20	4.27	1.30	4.13	2.61	4.50	.26	2.70	5.70	1.27	10.10	2.80	2.06	7.82	11.92	16.32	12.27	10.62	7.30	7.85	7.65	10.91										
Mean inches.	4.98										7.14			3.26																					11.08				10.33														

KANDANG KERBAU HOSPITAL OBSERVATORY,  
Singapore, 1st June, 1890.

T. C. MUGLISTON,  
Acting Principal Civil Medical Officer, Straits Settlements.



59/11

# REGISTER OF RAINFALL, FOR THE MONTH OF JUNE, 1890.

## STRAITS SETTLEMENTS.

STRAITS SETTLEMENTS.																																																						
Date.	SINGAPORE.													The Dindings		MALACCA.																				PENANG.				PROVINCE WELLESLEY														
	P. and O. Co's Dep't, New Harbour.	General Hospital, Sepoy Lines.	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Bukit Bruang.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambei.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Merlemau Forest Reserve.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Leper Asylum, Pulau Jerejak.											
1	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.							
2	...	...	1.20	1.04	.03	1.20	.83	1.25	...	...	...	...	...	1.30	...	...	1.64	...	...	.29	...	...	...	...	...	...	...	.50	...	...	.70	...	.09	1.53	...	.04	.04	...	...	...	...	.48	...	...	...	...								
3	...	.68	...	...	1.27	...	.30	...	2.02	1.07	...	...	...	1.00	1.50	...	...	...	1.30	.22	...	...	...	.27	...	...	...	1.00	.50	...	...	1.06	.62	.30	.01	.12	.07	1.06	...	...	...	...	.50	.35										
4	...	...	.35	.16	...	.02	.20	.12	.10	...	.21	.21	.68	...	...	2.40	...	1.45	.10	.12	1.30	.70	...	...	...	...	.50	.20	...	...	.14	.80	.12	...	.23	.63	.52	.04	1.00	...	...	.28	.20	.95										
5	...	1.25	.15	.06	...	.25	.25	.55	...	.12	...	...	.23	.20	...	...	...	...	.70	...	...	...	...	...	...	...	1.00	...	...	...	...	...	...	.03	...	.38	.40	...	...	1.00	...	.54	...	.05										
6	...	...	...	...	.63	...	.40	...	.09	.60	.01	.14	.08	...	...	...	...	...	...	...	...	...	.30	...	...	.50	...	.50	...	...	...	...	...	...	1.17	.23	.70	1.65	1.37	.50	...	.16	1.25	.65										
7	...	.60	.15	...	...	.01	.50	.02	.11	...	.05	...	3.25	.73	.50	...	...	...	2.00	...	.50	...	.15	...	.20	...	.50	1.00	...	.50	...	2.20	...	...	.51	.47	.25	.45	.11	...	...	...	...											
8	...	.65	1.35	.83	.08	1.57	.50	1.45	1.61	.02	.18	.22	.42	1.00	.40	.30	1.15	...	.42	.30	...	.80	.30	.90	.41	1.30	1.30	.03	.80	...	.39	.40	.30	.72	.07	3.55	5.00	1.78	3.00	.60	3.21	4.25	2.10											
9	...	...	1.10	1.30	1.52	.30	...	1.16	.88	1.76	...	...	...	...	...	1.40	.30	.80	.80	1.12	.50	...	...	1.80	.19	...	...	.02	1.40	...	...	.50	1.30	.15	2.72	.11	.13	.51	...	2.00	...	...	...											
10	...	...	.68	.56	1.10	.87	.57	1.04	...	1.25	.09	.06	...	...	3.30	...	1.52	...	1.25	...	...	.60	1.15	.170	.37	...	1.20	...	2.00	...	.50	.50	.07	.30	.02	.17	1.43	.06	...	...	...	...	...											
11	...	...	.04	.08	.57	.03	...	.05	.89	.93	...	...	...	...	...	1.50	...	1.26	...	1.30	1.00	...	...	...	1.40	...	1.50	...	.30	...	3.30	2.06	...	.15	...	.14	...	...	...	...	...	...	...											
12	...	...	...	.04	.01	.06	.26	.03	.14	.04	.03	...	...	...	...	...	.31	...	.75	...	...	.70	.30	.20	1.24	...	...	.20	...	...	.72	...	...	...	.28	.57	.47	...	.60	.08	...	.25												
13	...	...	.02	.02	...	.03	...	.04	.24	.01	.05	.10	...	...	...	.30	...	...	.20	.32	...	.10	...	.25	...	.40	.30	.50	...	.50	...	...	.45	1.17	.16	.41	.74	...	.50	.100	.34	...	1.00											
14	...	.70	.42	.30	.03	.47	.30	.09	.11	.03	...	...	...	.15	...	...	...	.40	...	...	...	.40	...	...	...	...	...	...	...	...	...	...	.04	...	.49	...	.01	...	...	.20	...	...	...	...										
15	...	1.00	.33	1.17	.24	.30	.50	.62	.29	.43	...	...	...	...	...	.10	.23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...										
16	...	...	...	...	.40	...	...	...	...	.20	...	...	...	...	...	...	...	...	...	.27	...	...	...	...	...	...	...	...	.40	...	...	.20	...	...	...	...	...	...	...	...	...	...	...	...	...									
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.31	...	...	...	...	...	...	...	...	...	...	...									
18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...								
19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.50	...	1.00	...	...	...	...	...	...	...	.50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...								
20	...	...	.02	.18	.09	.06	...	.05	.10	...	...	...	...	.30	...	...	...	.75	...	.30	.60	.50	...	...	.70	1.10	...	.03	...	.40	.07	...	.79	.70	...	...	.01	...	...	...	...	...	...	...	...									
21	...	...	...	...	.13	...	...	...	...	.05	...	...	...	...	.20	.40	...	...	...	.03	...	...	...	...	...	...	...	.50	...	...	...	...	...	.23	...	...	.09	...	...	...	...	...	...	...	...	...								
22	...	...	...	...	...	...	...	...	...	...	.03	.10	...	...	...	...	...	...	.37	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...								
23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
28	...	...	.50	.19	...	1.03	...	.41	.64	...	...	...	...	...	...	...	...	...	...	.03	...	...	...	...	...	...	...	...	.80	.40	.20	...	...	...	...	...	.03	.09	...	.20	...	...	...	...	...									
29	...	...	...	...	.17	...	...	...	...	.70	...	...	...	...	...	...	...	...	...	.03	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.79	.33	...	.01	...	...	...	...	...	...	...	...								
30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.50	...	.10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...							
Total inches.	5.13	6.31	5.93	6.40	6.02	4.81	6.88	7.42	7.21	.59	.83	4.66	4.98	7.09	7.40	7.25	5.01	9.69	4.39	4.00	4.10	2.90	6.15	3.93	4.70	5.80	6.18	6.30	3.60	3.03	7.76	6.55	7.51	5.06	6.67	11.38	5.40	6.40	4.40	5.09	7.42	5.52												
Mean inches.	6.26													2.03	5.38																				7.13	5.75																		

KANDANG KERBAU HOSPITAL OBSERVATORY,  
Singapore, 1st July, 1890.

MAX. F. SIMON,  
Acting Principal Civil Medical Officer, Straits Settlements.







# REGISTER OF RAINFALL, FOR THE MONTH OF AUGUST, 1890.

## STRAITS SETTLEMENTS.

STRAITS SETTLEMENTS.																																														
Date.	SINGAPORE.											The Dindings			MALACCA.																				PENANG.				PROVINCE WELLESLEY.							
	P. and O. Co's Depdt, New Harbour.	General Hospital, Sepoy Lines	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Bukit Bruang.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambei.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Merlemau Forest Reserve.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Leper Asylum, Pulau Jerejak.			
1	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.
2		.10	...	...	...	...	.32	...	...	...	...	...	...	.20	...	...	.25	...	.40	...	...	.50	...	...	.43	...	.50	...	...	.20	...	...	...	...	.03	...	.12	.14	...	...	.09	...	...			
3		...	...	...	...	...	...	...	...	...	...	...	...	.45	...	.30	.37	...	.15	.10	.40	.10	.20	...	.30	.10	.30	.60	.50	...	...	...	.30	.75	.37	.77	.20	...	.50	...	.26	.40	.35			
4		.70	.12	.08	.24	.13	...	.04	.07	.01	...	.02	.05	.10	...	.10	.04	...	.22	.20	...	.25	.10	...	.70	.30	...	.20	.30	...	...	.27	...	.15	1.10	.22	.28	.58	.21	...	.20	1.38	...	.93		
5		.25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
6		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
7		...	.05	...	...	.30	...	.42	.16	...	.31	...	...	1.33	1.50	...	1.14	2.40	2.80	...	...	2.00	1.15	...	...	.70	1.40	.80	.10	.40	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
8		...	...	...	.10	...	...	...	...	.26	...	...	...	1.30	...	2.30	1.46	.90	2.85	.50	1.50	1.00	2.00	...	...	.40	.50	.65	...	1.20	.66	...	.85	1.27	...	...	...	...	...	.20	...	...	...			
9		1.00	.13	.15	...	.23	1.00	1.21	...	.54	...	...	...	.12	2.00	.90	...	.15	.05	1.10	1.40	...	...	...	.90	.10	...	...	...	...	.68	...	1.23	1.10	...	...	...	...	...	...	...	...	...	...		
10		...	...	...	.09	...	...	...	...	.12	...	...	...	...	1.20	...	...	...	...	...	...	...	...	...	.23	.20	...	...	...	...	...	...	...	...	.06	.15	.07	...	.20	.20	.30	...	...			
11		...	...	...	...	...	...	...	...	.18	2.65	4.50	3.60	2.00	...	...	1.50	1.60	4.30	...	2.60	1.30	1.30	...	...	.10	2.50	1.80	.50	1.20	...	1.50	...	.50	.30	.25	.46	...	.25	1.00	...	...	.10			
12		...	...	...	...	...	...	.11	.51	...	.12	.60	...	...	2.60	1.70	...	...	.05	1.00	...	...	...	...	1.70	...	...	...	...	...	...	2.00	...	1.57	1.31	.03	.05	.17	1.05	...	1.20	.20	3.00	.27		
13		...	...	...	.05	...	...	.18	.02	.11	...	...	...	1.30	...	...	1.20	.60	.63	.10	...	...	...	...	.08	...	...	.20	.10	...	...	2.40	...	.40	...	.04	.32	...	...	...	...	.55	...			
14		...	.01	...	...	.19	...	...	.22	.01	.25	.15	.19	...	1.20	1.40	.04	.45	...	.10	...	...	.15	...	...	.10	...	...	...	.20	.40	...	...	.36	.17	.69	1.10	2.20	2.33	.40	...	.15	...	1.15		
15		...	.04	.04	...	.03	...	2.16	.09	.80	.50	.65	2.00	1.50	...	2.50	3.10	2.00	.90	...	2.10	...	...	2.90	...	1.50	2.40	...	1.20	...	2.20	.08	2.90	.32	.25	.30	.15	.50	...	.10	...	.80				
16		.30	.18	.16	...	.20	.60	.28	.79	.02	.00	.05	.50	.15	2.50	2.60	...	...	.20	.50	...	.03	...	...	.24	2.00	...	.30	...	...	1.20	...	3.20	...	...	...	.66	...	...	.20	.56	...				
17		.10	.29	.30	.21	.26	.50	.37	.42	.19	.67	.70	...	1.10	...	.80	1.35	...	.45	.30	...	.45	...	...	.10	...	...	...	1.15	...	...	.90	...	...	.30	.09	.30	...	...	.30	...	.12				
18		.15	.12	.15	1.04	.29	.20	.83	...	.33	...	.06	...	.20	...	...	...	...	...	...	.50	...	.20	...	...	.10	...	.10	...	...	...	...	.98	.37	.16	.07	.15	...	.40	1.10	...	...				
19		.45	.10	.15	.18	.14	1.96	.20	.64	.70	.58	.58	.56	...	.40	.10	.04	...	...	...	...	.50	...	...	.01	.70	.10	...	...	...	...	...	.50	...	.04	.06	.73	.20	...	.21	.32	.07				
20		1.20	2.74	2.87	...	2.65	2.50	2.15	.08	.02	.10	.15	...	.50	...	.80	.39	.40	.56	.20	.80	.30	.20	...	.25	1.30	...	1.00	.60	1.10	.75	...	.04	.35	.03	...	...	...	...	1.00	.11	.69	.05			
21		...	.07	...	2.20	.11	.50	.06	1.19	2.43	.00	.14	...	.18	.40	.10	.09	.20	.16	.20	...	.15	.15	...	.25	.50	1.20	.10	...	.45	2.08	.90	.34	...	...	...	...	...	...	.13	.10	.11				
22		.40	.08	.18	.02	.10	.20	.10	.75	.05	.09	.35	...	.24	...	...	.18	.45	.35	.10	...	...	...	.50	1.50	1.60	...	.30	.28	2.40	.17	.80	.14	...	.27	1.50	1.69	.33	...	...	.38	.34	...			
23		.50	.47	.50	.01	1.04	.50	1.87	.32	.12	.22	.40	...	.10	...	.30	.02	...	...	...	...	...	...	.26	.30	.30	...	.10	...	...	...	...	.10	...	...	...	...	...	...	...	...	...	...			
24		.20	.10	.15	1.31	.19	1.50	.06	.11	1.23	2.97	2.10	...	.25	...	.30	.20	.65	...	...	...	2.50	.10	...	2.00	.60	...	.10	...	1.20	.26	...	...	...	.63	1.30	3.77	.35	.70	1.00	1.29	.48	...			
25		1.10	.71	.87	.09	.85	.50	.90	.24	.06	.24	.37	.37	...	...	...	.17	...	...	...	...	...	...	...	...	...	...	.70	1.20	...	...	.23	1.71	.39	1.60	.85	.43	.50	...	.15	...	.80				
26		.25	.32	.38	.39	.40	.50	.49	.32	.50	...	...	...	.37	1.35	.30	.50	.60	.75	1.30	.40	.44	1.30	...	.85	.20	.80	1.50	.95	...	...	1.15	.39	.40	.04	.04	.07	...	.10	...	.04	...	.06			
27		.35	.31	.05	.35	.21	.30	.18	.45	.47	.02	...	...	...	...	...	.05	.49	...	...	3.40	.26	...	...	...	.50	...	1.00	...	...	...	2.35	1.29	.51	...	...	...	...	...	...	...	...	...			
28		...	...	...	.08	...	.45	.02	.02	.15	.13	.04	.70	...	...	...	.50	...	2.30	...	...	...	...	.38	...	...	.10	1.20	...	...	...	.18	1.00	.08	.15	.82	2.00	...	...	.65	.93	...				
29		1.00	1.65	1.66	...	1.46	.50	1.58	1.77	.43	.07	.10	.31	1.30	1.30	1.50	.27	...	.36	.20	1.30	...	.20	...	.26	.70	.60	.10	1.20	...	.46	3.70	.41	1.00	...	.12	.01	.48	.10	...	...	...	...			
30		...	.48	.16	1.45	.57	1.60	.60	.18	1.43	...	...	...	.24	...	.50	.45	1.30	.50	...	...	.10	.40	...	.10	.40	.14	...	...	...	...	.17	1.00	...	...	.05	...	.40	...	...	...	...				
31		...	.12	...	.18	...	...	...	...	.41	.07	.26	...	.10	.40	.20	.19	.55	.42	.10	...	1.60	.15	...	...	...	.30	...	...	.40	1.50	.54	...	.59	.18	.12	.47	.70	1.60	.92	2.10	...				
Total inches.	8.05	8.10	7.85	7.99	9.35	13.63	11.65	10.62	9.74	9.92	11.85	7.85	13.53	16.35	14.20	12.90	13.84	19.50	7.40	12.60	13.08	8.15	.50	13.43	10.71	10.74	12.15	9.07	10.95	8.93	17.40	12.71	16.34	5.12	7.98	14.61	9.25	5.15	7.90	6.86	9.47	4.81				
Mean inches.	9.59											9.87			11.91																					9.24				6.84						

KANDANG KERBAU HOSPITAL OBSERVATORY,  
Singapore, 1st September, 1890.

MAX. F. SIMON,  
Acting Principal Civil Medical Officer, Straits Settlements.







# REGISTER OF RAINFALL, FOR THE MONTH OF OCTOBER, 1890.

## STRAITS SETTLEMENTS.

STRAITS SETTLEMENTS.																																																						
SINGAPORE.											The Dindings			MALACCA.																						PENANG.					PROVINCE WELLESLEY.													
Date.	P. and O. Co's Depôt New Harbour.	General Hospital, Sepoy Lines	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	Holme Chase.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Batu Berendam.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambei.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Bukit Bruang.	Merlemau Forest Reserve.	Ayer Keroh.	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Minyak.	Sungei Bakap.	Leper Asylum, Pulau Jerejak.									
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.							
1																																																						
2		.30	.70	.02		.37		.01	.10																																													
3		.60	.33	.17		.22		.07	.30	.01																																												
4		.27	1.10	.54	.35	.93	1.50		1.15	.06																																												
5		1.15			.94	.04	1.50	.61	.01	.65	.45	.22	.80																																									
6		.10				.03					1.66	1.62	1.80					.06	.30																																			
7			.56	.84		.41		.74	.60	.01	.21	.52		.10		.20	.50	.40	.05	.10		.40	.01																															
8		.08	.27	.36	.53	.46		.49	.22	.67	.05			.26		.20	.50	.14	.95				.02	.50																														
9		.43			.16		.28		1.04	.49	.05	.26								.60	.30																																	
10			.92	.80		.35		.08		.61	.03																																											
11		.21			.60	.05			.07	.10	.46	.27				.10	.21	.32	.20	.10				1.34						.42	1.25																							
12		.03	.10	.14			.45	.44		.02	.01	.06								.10	.50	1.60	.80			.70	.40	.70					1.20	.20	.34	.51	.41	2.96	3.70	1.10	4.09	2.20		1.55	.68									
13		.29			.41	.30	1.00	.13		.42	.20	.56																																										
14			.09	.11		.16	1.00		.10		.54	.33	.20																																									
15			.40	.38	.30	.62	.50	.53	.42	.12	.25	.37	.15						.02																																			
16					.30	.05	.50	.04		.47	.02	.20	.40	.25		.40	.22	.70	.30																																			
17			.42	.38	.27	.73	.50	.40	.42	.03	.02					.30	.18																																					
18		1.22	.02		1.00	.02	.50	.05	.05	.31	1.20	1.00	1.07	1.90	.30	1.70	1.40	1.05	.25	.30	.15	.17		.10		.10	.40	.10	.30					.80	.14	.11	.15	.11	2.90	3.10	4.75	.22	3.70	4.00	2.15	1.95	3.15							
19						.08		.20		.04	.26				2.40					.20		.53	.02			.25																												
20		.95	1.10	1.10		.75	.50	1.24	1.09	.02	1.63	1.00		.95		1.00	1.31	1.26	.80	.20		1.20			.60	.43	.20	.50	1.00	1.25	.81	3.00																						
21		.90				.01				.01	.30	.42	.40		1.00	.30		.35	1.20		.6		.90			1.20		.10																										
22		.30	.16	.15		.54	.50	.38	.16	.21	1.33	.80	.93		.30	.90	.90	.45	.65	.10	.6	.20	.02	.60	.45	.35	.40	.10	1.20	.20																								
23						.17		.30		.47	.23	.20		.50		.50				.20	.6		.40																															
24			.10	.25		.06		.09	.11	.01	.75	.41		.20		.20	.15	.09	.80						.20	.06					.30																							
25		.25	.01	.20	.12	.10	.20	.05		.07	.01						.10	.12	.14	.15	.10	.30	.30	.25																														
26						.05	.12			.02	.01	.89					.50			.30					.61		.40				.25	.53		.13	.06																			
27						.90				.30		.37	.40	.60	.30		.60		1.51	.50	.20	.20	1.20	1.10		1.18	.40	.50	.20	.70	1.25	.63		.35	.31	1.80	1.20	.44	.25	.55	3.38	2.20	4.20	.62	.58									
28			.49	1.60	.04	.49		.35	.52	.14				.45	1.00	.90	1.50	.22	.65			1.80		.20		.36	.30	.90	.40	.22	2.80	1.70	1.40	.46	.50		.49			.07				.44	.23									
29		.55	1.80	3.16	.53	.58		.82	1.70	.57	.31	.20	.93	.64		.80	.70	.47		.40		.60	.21		.66	1.90	.60	.70	.35	1.25	.66		1.83	.69		1.29	.01			.35				.42	.86									
30		.03	1.10	2.26	1.30	1.42		.30	1.08	.98	.41	.20	.19	.60	.80	.60	.80	.46	.40		.25		.80	1.00	.50	.65	.50	.80	1.02	.80	.75		.61			.85	.90	.72	.95	.49	1.61	1.60	3.22	4.45	2.15	2.80	5.58	1.67						
31		.91			.70		.65	.02		.38	.21	.26	.40								.50		.55																															
Total inches.		8.46	9.07	12.46	10.50	8.79	10.00	7.34	9.14	6.29	10.97	10.19	7.87	6.15	6.30	8.30	8.49	7.62	7.69	2.85	5.60	9.16	5.52	2.00	6.77	7.09	4.70	5.22	5.89	10.95	6.51	9.25	8.63	7.51	5.09	7.35	21.65	27.80	29.39	35.96	24.20	25.00	20.33	16.33	13.97									
Mean inches.					9.12						9.68													6.82													26.28							22.64										

KANDANG KERBAU HOSPITAL OBSERVATORY,  
Singapore, 1st November, 1890.

MAX. F. SIMON,  
Acting Principal Civil Medical Officer, Straits Settlements.



# REGISTER OF RAINFALL, FOR THE MONTH OF NOVEMBER, 1890.

## STRAITS SETTLEMENTS.

STRAITS SETTLEMENTS.																																																			
Date.	SINGAPORE.											The Dindings			MALACCA.																				PENANG.				PROVINCE WELLESLEY.												
	P. and O. Co's Dep't New Harbour.	General Hospital, Sepoy Lines	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Saranggong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	50-1 Grange Road.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Batu Berendam.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambei.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Bukit Bruang.	Merlemau Forest Reserve.	Ayer Keroh	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Mertajam.	Sungei Bakap.	Leper Asylum, Pulau Jerejak.						
1	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.			
2		.15	.10	...	...	.11	.03	.25	...	.01	.01	...	.05	...	...	...	...	.04	.20	...	...	.40	...	...	.20	...	...	.40	...	.50	...	...	...	...	...	...	...	.76	.20	.20	2.53	1.15	...	.33	.32	1.00					
3		...	...	...	...	.10	...	.32	...	.02	.10	.06	.40	.20	...	.20	.30	.19	.15	.20	.50	...	...	.60	.40	1.50	.28	.30	1.50	...	1.10	...	.20	...	.04	.75	...	.05	...	.02	.07	.30	...	.42	...	...					
4		...	.22	.27	.4	.02	...	...	.10	.21	.01	.52	.59	.84	...	...	.25	.28	.50	.39	...	.10	1.25	1.00	...	.60	.35	.60	.43	1.30	.19	...	1.52	1.39	.25	1.22	.01	.35	...	.32	.15	...	.40	.34	...						
5		.22	2.38	3.84	.15	1.84	.59	2.43	2.42	.20	.16	.01	...	1.60	1.30	2.00	.70	3.45	.80	...	1.00	...	.60	.30	1.12	.06	.15	1.30	.52	.30	.12	1.30	.10	.56	1.23	1.00	.65	.50	.77	...	...	...	...	...	...						
6		1.45	.02	.06	4.70	.13	.50	.10	.04	3.08	...	.02	.60	...	...	...	.85	.72	.65	.40	...	...	...	.70	.50	.10	...	...	...	...	...	...	.20	1.16	.78	...	1.18	...	...	...	...	...	.30	.13	...						
7		.17	.08	.36	.01	.46	.50	1.43	.09	.18	...	...	...	...	...	1.40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.21	.40	.16	.28	...	...	.20	.15	...						
8		.58	.15	.26	.19	.02	.50	.15	.15	.99	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.18	.02	...	...	...	.25	...	...						
9		...	.01	...	.52	.01	...	...	...	.16	...	...	.30	...	...	...	...	.27	.45	.20	...	.40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
10		...	.45	.18	...	.73	1.10	1.46	.51	...	...	...	1.30	...	...	...	...	.15	.15	.20	...	...	...	...	.60	.13	.20	...	.30	...	...	...	.76	1.33	...	2.38	...	...	...	...	...	.35	...	...							
11		...	1.22	1.27	.65	1.09	.30	1.05	1.73	1.28	.13	.54	...	.41	...	...	.70	.70	.20	.30	.80	...	...	...	1.05	.70	.10	.30	...	2.10	.50	3.50	.34	.47	...	1.35	.03	.06	.16	.08	.50	...	.63	.40	.50						
12		.10	.40	.46	.68	.73	.20	...	.23	1.64	.80	.50	...	...	...	.51	.60	...	.60	.30	...	...	...	...	.70	.10	.30	.70	.40	2.10	.44	.10	.29	.35	...	.15	...	...	.06	.61	...	...	.10	...							
13		.50	.05	...	...	...	.15	.11	.02	.69	...	.30	...	...	...	.40	...	...	.09	.10	...	...	...	...	...	.60	.50	...	...	...	...	...	...	.43	.45	...	.62	...	...	...	...	...	...	...	...						
14		...	...	...	...	.03	.10	...	.05	.01	.02	.12	...	...	...	...	...	.10	...	...	...	...	...	...	...	...	.50	...	...	...	...	...	.70	.90	.70	.07	.04	1.65	...	.35	1.75	1.50	.45	...	...	1.12	.05				
15		...	.02	...	...	.03	.50	.03	.05	.03	.04	.25	.36	.45	...	...	.70	.15	.89	.40	1.15	...	.05	1.00	.10	...	...	.20	1.00	.70	...	1.67	...	.03	2.00	...	...	...	.07	...	.40	.16	.12	...							
16		...	1.30	1.33	.10	.80	.50	.57	.70	.06	...	...	...	...	...	.30	...	.04	.17	...	...	...	...	...	...	.46	.50	.45	...	.10	...	...	...	.83	.28	...	.42	...	...	.02	...	.10	...	...							
17		.40	1.67	3.64	1.30	1.37	.25	1.48	1.43	.57	...	...	...	.80	.70	...	.70	.52	.55	...	1.20	...	...	...	...	...	...	...	...	...	...	...	...	...	.03	.30	.03	...	.13	.31	...	...	.05	...							
18		1.15	.02	.18	1.80	.01	...	.03	...	1.28	...	...	...	...	...	.80	...	...	...	.40	...	.40	...	...	...	...	...	...	...	...	...	...	...	.60	.93	.28	.50	...	...	.61	...	...	...	...							
19		...	...	.04	.45	.02	...	.03	.03	.01	...	...	...	...	...	...	.15	...	...	...	...	...	...	...	.50	.50	.87	.40	...	...	.35	.26	.50	...	...	...	...	...	...	...	...	...	.10	...							
20		.01	.49	1.20	...	.48	...	.55	.50	.02	.11	...	...	...	...	...	...	.35	.45	...	...	...	...	...	.20	.40	.60	...	.45	1.20	.13	1.40	.34	.04	.40	.24	.12	.21	.25	...	...	.15	...	...							
21		.50	.13	.26	.65	.44	.50	.46	.53	.51	...	.10	...	...	...	...	.15	...	.04	.40	.20	...	...	...	...	...	.86	.60	...	.15	.70	...	.15	.81	.11	2.14	...	...	.07	...	...	...	...	...							
22		...	...	...	...	...	.10	...	...	.29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.04	.04	.10	.02	...	...	...	...	...	...	...	...	...					
23		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.03	...	...	...	...	...	...	...	...	...	...	...					
24		...	...	...	...	.08	...	.27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
25		...	.13	.15	.38	.17	1.00	.18	.12	.02	...	...	...	.50	1.20	...	...	1.40	.20	...	...	1.40	.30	...	1.20	...	...	.20	...	...	...	...	.50	.63	.72	1.00	.30	.03	.05	.12	...	...	...	...	...						
26		.05	1.61	1.35	...	.62	...	...	.05	.07	...	.34	...	...	...	...	.60	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...					
27		...	1.10	.90	.15	.73	.50	.92	.14	...	.04	...	...	...	...	...	.15	.13	.05	.50	.50	.40	...	...	...	.50	.60	...	1.60	...	...	...	...	.07	...	...	.42	.90	.11	.04	.45	...	.25	.50	...						
28		1.22	...	...	.40	...	1.50	...	.17	1.06	2.02	...	.50	...	...	.50	...	.07	1.00	...	...	...	...	...	.30	.63	...	...	1.20	.75	.80	.80	.11	.27	.70	.55	...	...	...	...	...	...	.40	.31	...						
29		...	1.88	2.83	.07	1.27	.68	1.73	1.84	...	.26	1.35	.30	.18	...	.10	.25	.20	.30	...	.30	.80	.70	.20	.60	.80	...	...	...	.11	1.05	.42	1.30	...	.03	...	...	.29	.17	.01	...	...	...	.80	.94	.53					
30		.85	...	.05	2.77	...	...	...	...	1.92	...	1.50	1.70	...	...	...	.25	.01	.10	.05	...	...	...	...	.30	...	...	...	...	.20	.34	...	.55	.67	...	.15	...	...	...	...	...	...	...	...	...	...					
31		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Total inches.	7.35	13.43	18.63	15.85	11.03	10.71	12.88	11.09	14.12	4.96	5.84	6.75	4.14	4.50	6.20	6.35	8.67	7.64	3.34	6.15	4.82	8.85	6.10	9.27	7.59	4.80	6.65	8.30	16.05	5.82	15.82	9.70	9.06	11.95	10.11	3.05	5.47	3.81	4.91	5.10	1.35	4.84	6.87	4.06							
Mean inches.	12.79											5.85	7.90																								4.31				4.44										

KANDANG KERBAU HOSPITAL OBSERVATORY,  
Singapore, 1st December, 1890.

MAX. F. SIMON,  
Acting Principal Civil Medical Officer, Straits Settlements



# REGISTER OF RAINFALL, FOR THE MONTH OF DECEMBER, 1890.

## STRAITS SETTLEMENTS.

Date.	SINGAPORE.										The Dindings			MALACCA.																												PENANG.				PROVINCE WELLESLEY.					
	P. and O. Co's Depôt New Harbour.	General Hospital, Sepoy Lines	Kandang Kerbau Hospital Observatory.	Pauper Hospital, Sarangoong.	Waterworks Reservoir, Thomson Road.	Killenny Estate, Tanglin.	Quarantine Station, St. John's Island.	Botanic Gardens.	50-1 Grange Road.	Lady Hill.	Lumut.	Pangkor Hospital.	Bruas.	Town.	Tranquerah.	Banda Hilir.	Durian Daun.	Kandang.	Batang Tiga.	Batu Berendam.	Jelotong.	Umbei.	Durian Tunggal.	Sungei Udang.	Merlemau.	Machap.	Kesang.	Sungei Rambei.	Pangkalan Balak.	Pulau Sebang.	Nyalas.	Kuala Linggi.	Bukit Sabukor.	Bukit Bruang.	Merlemau Forest Reserve.	Ayer Keroh	Fort Cornwallis.	Central Prison.	Government Hill.	Balik Pulau.	Butterworth.	Bertam.	Bukit Mertajam.	Sungei Bakap.	Leper Asylum, Pulau Jerejak.						
1	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.			
2	..	..	.40	.67	.01	.28	..	1.15	..	.01	1.70	..	..	.04	..	.30	..	.29	.26	..	.30	.05	.35	.25	.10	.20	.40	..	.70	..	.40	1.40	.30	..	.43	..	.02	..	..	..	..	..	..	..	..	..	..	..			
3	..	..	..	..	1.90	.01	..	..	.08	1.14	..	1.50	..	..	..	.20	.45	.84	.25	..	..	1.50	.04	2.00	1.80	.05	..	1.02	1.25	.15	.85	.90	.09	1.80	..	..	.02	..	..	..	..	..	..	..	..	..	..				
4	..	..	..	.28	.90	.12	.58	.24	.17	..	..	..	..	.50	..	.20	..	.54	..	.30	..	..	1.05	..	.84	.60	2.00	..	..	.70	..	1.00	.18	.85	.30	..	1.65	1.15	.62	..	1.00	..	..	..	..	..	..				
5	..	.23	.66	.63	.10	.64	..	.32	.52	.15	.50	.55	..	..	..	..	..	.02	.10	.20	..	.20	..	1.60	..	.20	3.30	..	.40	..	.38	..	..	..	..	..	.03	..	.01	..	.10	..	..	..	1.13	.10					
6	..	.10	1.01	2.23	.65	.73	.40	.68	.27	.19	.20	..	..	.09	..	..	.15	.12	.00	.10	.20	1.50	2.50	1.30	..	.20	..	.30	.70	..	..	..	.04	.35	.13	..	..	..	.53	..	..	..	..	..	..	..					
7	..	..	.12	..	1.07	.20	..	.25	.19	.75	..	..	.10	..	..	..	..	..	..	..	.50	..	..	..	..	..	..	..	..	..	..	..	..	..	.30	..	.07	..	.38	..	..	..	..	..	..	..					
8	1.10	..	..	..	..	..	..	..	.41	.10	..	..	..	..	..	..	..	.25	.13	..	..	1.40	..	..	..	.25	..	..	..	..	..	..	..	.85	..	..	..	..	.15	..	.31	.26	..	.10	..	..					
9	..	..	.11	.24	..	.09	..	.45	.13	.01	.20	.26	..	..	..	..	..	.05	.20	..	..	..	..	..	..	.10	..	..	..	..	..	..	..	.28	..	.25	..	.15	..	.53	.05	.30	..	..	..	..	..				
10	..	3.71	5.06	.60	3.30	2.65	2.80	3.31	.50	.26	..	.10	..	..	..	..	..	.05	.20	..	..	.10	..	..	..	.06	.20	.20	.50	.20	..	2.00	..	.03	..	..	..	..	..	..	..	..	..	..	..						
11	2.30	.34	.23	3.55	.36	..	.98	.64	3.12	.24	.30	..	..	..	..	.70	1.50	.74	.90	.30	..	1.05	.35	.50	.07	1.10	.10	..	.58	.40	1.06	2.10	..	.04	..	.02	..	..	..	..	..	..	..	..	..	..					
12	..	1.05	1.65	.50	.93	..	.55	.64	.73	.31	..	.31	..	..	..	..	..	.02	..	..	..	..	.50	..	..	.20	..	..	..	..	..	.60	..	.98	1.60	.82	..	..	..	..	..	..	..	..	..	..					
13	..	.10	.23	.15	.07	..	.16	.12	.60	.18	..	.21	.50	..	..	.40	..	.30	.15	.20	..	.15	..	1.00	.18	.72	1.10	.20	..	.20	1.38	.65	.04	.50	.03	..	.99	.75	.12	..	.90	..	..	..	..	..					
14	1.00	1.21	.28	.66	.98	.50	.40	.45	.13	.19	2.25	..	..	..	..	.90	.70	.47	.20	..	..	1.80	.50	1.00	.90	.29	.50	.90	..	..	..	8.50	.20	..	.15	..	.77	1.13	.23	..	..	..	..	..	..	..	..				
15	..	..	.10	.10	.63	.16	.22	.20	.31	.60	..	.25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1.41	.30	..	.50	..	1.00	.34	..	..	..	..	..	..	..	..	..	..	..	..				
16	..	..	.21	.38	.06	.15	.50	.08	.12	.04	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
18	..	..	..	..	..	..	.50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
19	..	..	.17	.18	..	.19	.03	.11	.12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
20	..	..	..	..	.20	..	..	..	..	.13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
21	.30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
23	..	..	.02	..	..	.05	..	.11	.07	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
24	..	1.10	.30	..	1.26	..	1.24	1.34	.08	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
25	..	..	.45	.30	..	..	..	..	..	.96	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
26	..	..	.07	.14	.10	..	..	.03	.06	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
27	..	.37	.38	..	.16	..	..	.15	.15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
28	1.00	.50	.32	.40	.39	..	.20	.15	.19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
29	..	.27	.32	.12	.06	..	.02	1.02	.28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
30	.25	..	..	.14	..	..	..	.15	.01	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																		

KANDANG KERBAU HOSPITAL OBSERVATORY,  
Singapore, 1st January, 1891.

MAX. F. SIMON,  
Acting Principal Civil Medical Officer, Straits Settlements



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